

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

**In re VIISAGE TECHNOLOGY, INC.  
SECURITIES LITIGATION**

**Civil Action No. 05-cv-10438-MLW**

**This Pleading Applies to: All Actions**

**AFFIDAVIT OF JEFFREY A. KLAFTER IN SUPPORT OF LEAD PLAINTIFFS'  
MOTION FOR FINAL APPROVAL OF PROPOSED CLASS ACTION SETTLEMENT  
AND PLAN OF ALLOCATION, AND LEAD COUNSEL'S MOTION FOR AN AWARD  
OF ATTORNEYS' FEES AND REIMBURSEMENT OF EXPENSES**

STATE OF NEW YORK                     )  
  )       ss.:  
COUNTY OF WESTCHESTER        )

JEFFREY A. KLAFTER, being duly sworn, deposes and says:

1. I am a partner of the law firm of Klafter & Olsen LLP, counsel to Lead Plaintiffs Ronald Sauer, and David and Lance Hancock, and one of the Court-appointed Lead Counsel in this Litigation.<sup>1</sup> I have personal knowledge of the facts detailed herein, having been one of the principal attorneys responsible for the prosecution and resolution of this class action since its inception. I am admitted to practice before this Court *pro hac vice*.

2. This Affidavit is respectfully submitted in support of Lead Plaintiffs' request for final Court approval of the proposed settlement set forth in the Stipulation of Settlement. This Affidavit is also submitted in support of Court approval of the Plan of Allocation described in the

<sup>1</sup> The defined terms herein are those contained in the Stipulation of Settlement, dated as of July 19, 2007, attached as Exhibit 1 to the Declaration of Jeffrey A. Klafter, filed July 23, 2007 (Docket # 93) (the "Stipulation of Settlement").

Notice of Pendency and Proposed Settlement of Class Action, Application For Attorneys' Fees and Expenses and Fairness Hearing, which was mailed to Class members commencing on September 7, 2007 (the "Notice"),<sup>2</sup> as well as Lead Counsel's Motion , on behalf of themselves and other plaintiffs' counsel, for an Award of Attorneys' Fees and Reimbursement of Expenses, reasonably incurred in the prosecution of the Action (the "Request for Attorneys' Fees and Expenses").<sup>3</sup>

### **INTRODUCTION**

3. After over two years of litigation, Lead Plaintiffs, on behalf of the Class, have entered into the Stipulation with the Defendants that will, if given final approval by the Court, resolve all of the Class's claims against Viisage Technology, Inc. ("Viisage") (now known as L-1 Identity Solutions, Inc.) and the Individual Defendants for the aggregate sum of \$2.3 million in cash.

4. On August 17, 2007, this Court entered an Order Certifying the Class, Preliminarily Approving Settlement and Providing for Notice (the "Preliminary Approval Order"), which certified the Class for settlement purposes only, preliminarily approved the Settlement and Plan of Allocation, approved the content and dissemination of the Notice, Summary Notice and Proof of Claim form, and set a date of November 16, 2007 for the Settlement Fairness Hearing. A copy of the Court's Preliminary Approval Order (without exhibits) is attached hereto as Exhibit B.

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<sup>2</sup>The printed Notice mailed to Class members is attached as Exhibit A, hereto.

<sup>3</sup>The other plaintiffs' counsel included in the Request for Attorneys' Fees and Expenses are: Berman DeValerio Pease Tabacco Burt & Pucillo, Court appointed Liaison Counsel, and the law offices of Roy Jacobs & Associates and Paskowitz & Associates, counsel to plaintiff Walter Cohutt, an additional plaintiff named in Lead Plaintiffs' Consolidated Amended Class Action Complaint filed in this Action on February 27, 2006. Together with Lead Counsel, these firms are collectively referred to herein as "Plaintiffs' Counsel."

5. Pursuant to the Preliminary Approval Order, 25,154 packets containing the Notice and Proof of Claim form were mailed by A.B. Data, Ltd., the Court-approved Claims Administrator, to Class members and nominees of Class members. *See* Affidavit of Anya Verkhovskaya, sworn to on October 31, 2007 (“Verkhovskaya Aff.”), ¶¶ 7-10.<sup>4</sup> The Notice, as approved by the Court in the Preliminary Approval Order, described the Action, the terms of the Settlement, the estimated average recovery per 100 shares, the Proposed Plan of Allocation, and Lead Counsel’s request for attorneys’ fees and reimbursement of expenses (the “Request for Attorneys’ Fees and Expenses”). The Notice also explained Class members’ rights and procedures for objecting to the Settlement, the Plan of Allocation and/or the Request for Attorneys’ Fees and Expenses and the right of Class members to appear at the Settlement Fairness Hearing. The Summary Notice was also published in the national edition of *Wall Street Journal* on September 17, 2007. *See* Verkhovskaya Aff. ¶ 14. In addition, copies of the Notice and Proof of Claim form were and remain available for download on the following web sites maintained by Lead Counsel: [www.klafterolsen.com](http://www.klafterolsen.com) and [www.entwistle-law.com](http://www.entwistle-law.com), by Liaison Counsel: [www.bermanesq.com](http://www.bermanesq.com), and by the Claims Administrator: [www.abdatalawserve.com](http://www.abdatalawserve.com).

6. The Preliminary Approval Order provided that any Class member who sought to object to the Settlement, the Plan of Allocation, and/or the Request for Attorneys’ Fees and Expenses, must file and serve their objections no later than October 26, 2007. To date, Lead Counsel are aware of no objections to any of these matters. Further, while requests for exclusion were due on the same date, only two Requests for Exclusion have been received by Class members. A copy of these requests are attached as Exhibit F to the Verkhovskaya Affidavit.

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<sup>4</sup> All Affidavits and Declarations referred to herein are included in the Compendium of Affidavits and Declarations in Support of the Settlement and Lead Counsel’s Request for Attorneys’ Fees and Expenses (“Compendium of Affidavits and Declarations”), filed herewith.

7. I submit that the proposed Settlement represents a significant and positive result for the Class -- particularly in light of the Court's dismissal of the claims alleging that Defendants concealed their misconduct in connection with a \$19.5 million contract Viisage had obtained with the Georgia Department of Motor Vehicle Safety ("DMVS") to provide secure drivers licenses for the State (the "Georgia DMVS Litigation") -- which had comprised a significant portion of the Class' damages alleged by Lead Plaintiffs -- and the considerable risks faced by Lead Plaintiffs in obtaining a recovery on the remaining claims allowed by the Court to proceed to discovery, as discussed in detail below. Furthermore, the proposed Settlement represents a recovery of approximately 18 percent of the maximum damages computed by Lead Plaintiffs' expert and over 230 percent of the damages that Defendants expert would likely present at trial.

8. I also submit, based upon the facts described below, that the Plan of Allocation set forth in the Notice, which does not favor any particular Plaintiff, is based on loss causation principles enunciated by the U.S. Supreme Court and various Circuit courts, and was developed in consultation with an expert retained by Lead Counsel, is fair and reasonable and warrants this Court's approval.

9. Moreover, given the substantial efforts expended by Plaintiffs' Counsel in prosecuting this Action for more than two years on a contingent fee basis and the result achieved for the Class, it is respectfully submitted that the Request for Attorneys' Fees and Expenses, by which Lead Counsel seeks significantly less than the collective lodestar of Plaintiffs' counsel, is also fair and reasonable and warrants this Court's approval.

### **HISTORY OF THE LITIGATION**

10. This Action concerns allegations that Defendants made materially false and

misleading statements to the investing public concerning the Georgia DMVS Litigation and Viisage's disclosure controls and internal financial controls. Lead Plaintiffs claimed that they and the Class were damaged when the revelations of the true facts concerning these matters caused the price of Viisage common stock to decline.

11. The Action was commenced in this Court on March 8, 2005. Pursuant to Section 21D(a)(3)(B)(i) of the Private Securities Litigation Reform Act of 1995 and by Order, dated January 19, 2006, the Court appointed Turnberry Asset Management, Electronic Trading Group, LLC, Ronald Sauer, David Hancock, and Lance Hancock as Lead Plaintiffs, and approved their selection of Klafter & Olsen LLP and Entwistle & Cappucci LLP as Lead Counsel for Lead Plaintiffs in the Action.

### **The Complaint**

12. On February 27, 2006, Lead Plaintiffs, and an additional Plaintiff, Walter Cohutt (collectively, "Plaintiffs"), filed their Consolidated Amended Class Action Complaint (the "Complaint"), which alleged, among other things, that Viisage and/or certain Individual Defendants made materially false and misleading statements in press releases, documents filed with the Securities and Exchange Commission (the "SEC"), and during conference calls with securities analysts, relating to: (1) the Georgia DMVS Litigation; and (2) Viisage's disclosure and internal financial controls. The Complaint further alleged that these materially false and misleading statements were made with knowledge of, or in reckless disregard of, the true facts. Lead Plaintiffs asserted in the Complaint that, in connection with this alleged wrongdoing, Defendants violated Sections 11 and 15 of the Securities Act of 1933 and Sections 10(b) (and Rule 10b-5 promulgated thereunder) and 20(a) of the Securities Exchange Act of 1934. By their

Complaint, Lead Plaintiffs sought money damages plus interest, costs and attorneys' fees from Defendants.

13. The Complaint was the product of an extensive investigation conducted by Lead Counsel and Liaison Counsel concerning the Georgia DMVS Litigation and internal control issues. In addition to reviewing S.E.C. filings, press releases and security analyst reports concerning Viisage, Lead Counsel obtained and analyzed substantial portions of the State Court record in the Georgia DMVS Litigation which had proceeded through the summary judgment phase and included, *inter alia*, several deposition transcripts and numerous internal Viisage documents. Further, as is described in the Affidavit of Patrick T. Egan, this investigation included discussions with several former employees of Viisage.<sup>5</sup>

14. On April 3, 2006, Defendants filed their motion to dismiss the Complaint, which motion was opposed by Lead Plaintiffs with the filing of their opposition brief on May 8, 2006. The Court held oral argument on Defendants' motion to dismiss on February 1, 2007, at which time, following extensive oral argument, the Court denied the motion to dismiss Lead Plaintiffs' claims concerning Viisage's disclosure and internal financial controls, but requested each of the Parties to submit further briefing on Lead Plaintiffs' claims concerning the Georgia DMVS Litigation disclosures. These supplemental briefs were filed with the Court on February 14, 2007. The Court then held further extensive argument concerning the Georgia DMVS Litigation disclosures on February 23, 2007, at which time the Court determined to allow Defendants' motion to dismiss those claims. On February 27, 2007, the Court entered an Order memorializing these rulings (the "February 27 Order"). Accordingly, the only claims allowed to proceed to discovery by the Court were Lead Plaintiffs' claims concerning statements made

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<sup>5</sup> The Affidavit of Patrick T. Egan is included in the Compendium of Affidavits and Declarations, filed herewith.

during the Class Period in certain of Viisage's filings with the S.E.C. regarding the effectiveness of Viisage's disclosure and internal financial controls.

15. The February 27 Order further directed the parties to, by April 27, 2007: (1) meet to discuss a possible settlement of the Action; (2) exchange certain information to assist the parties in discussing settlement; and (3) report to the Court on the status of those discussions and to present a proposed scheduling order to govern the case in the event a settlement was not achieved. In accordance with the February 27 Order, Defendants' counsel provided Lead Counsel with 770 pages of documents concerning Viisage's disclosure and internal financial controls during the Class Period and Lead Counsel provided Defendants' counsel with documents and information concerning trading in Viisage common stock by certain of the Lead Plaintiffs. Lead Counsel raised a number of questions concerning the documents that were provided and thoroughly analyzed all of them.

16. To facilitate the production of documents, Lead Counsel then negotiated a letter agreement with counsel for Defendants to maintain the confidentiality of the exchanged documents pending entry of an order by the Court concerning the treatment of information claimed to be confidential by a party or non-party.

### **SETTLEMENT NEGOTIATIONS**

17. At the conclusion of the February 1, 2007 hearing, the Court directed Lead Plaintiffs' to make a settlement demand on Defendants and for Defendants to respond prior to the February 23, 2007 hearing. After retaining an expert experienced in estimating damages in securities class actions, Financial Markets Analysis, LLC ("FMA"), located in Princeton, New Jersey, and consulting with FMA and the Lead Plaintiffs, on February 8, 2007, Lead Counsel presented their settlement demand on Defendants' counsel. On February 21, 2007, however,

Defense counsel rejected Lead Plaintiffs' demand stating that Defendants could not respond until the Court entered final rulings concerning their motion to dismiss.

18. At the February 27 hearing, counsel for the parties reported on their settlement communications and, as noted above, the Court entered the February 27 Order directing further settlement efforts and to either present a settlement or a case management order to govern final discovery in the Action by April 27, 2007. Pursuant to that directive, in light of the Court's rulings, Lead Counsel conferred with their respective clients again, with FMA and with a second damage expert, CBIZ Valuation Group, LLC ("CBIZ") located in Dallas, Texas, and then engaged in settlement discussions with Mitchell Kaplan, counsel for Defendants. It readily became apparent, however, that there was substantial disagreement as to the value of the remaining claims in the Action. Despite several further efforts to bridge the gap, the parties were unable to reach agreement by April 27, 2007, and therefore negotiated and submitted a Proposed Joint Pretrial Scheduling Order (the "Proposed Order") for the Court's approval on that date.

19. In an effort to break the log-jam, Lead Counsel suggested that a meeting with representatives of the Directors and Officers liability insurer – Carolina Casualty (the "D&O Insurer") be convened. We agreed to hold that meeting in Chicago, at the offices of Carolina Casualty's outside counsel, on May 7, 2007. Accordingly, as the Parties were still engaged in settlement negotiations, the Proposed Order contained a three-week delay before the commencement of formal discovery in which to meet with Carolina Casualty and conduct further negotiations.

20. The May 7, 2007 meeting in Chicago did not prove fruitful. Despite extensive discussions concerning the respective positions of the parties on liability and damages, no agreement was reached. Accordingly, Defendants answered the Complaint on May 14, 2007,

and the parties were prepared to commence discovery upon entry of the Proposed Order.

21. Following the submission of the Proposed Order, however, Lead Counsel and counsel for Defendants continued to discuss settlement and, after obtaining approval by the Lead Plaintiffs, finally reached an agreement-in-principle to settle this Action for the \$2.3 million on June 13, 2007, subject to the negotiation of a definitive stipulation of settlement and releases in forms satisfactory to counsel for all Parties, and approval of that stipulation of settlement by the Court.

22. As indicated above, the negotiations leading up to the proposed Settlement were the product of extensive arm's-length discussions among Lead Counsel, Defendants' Counsel and counsel for the D&O Insurer, each of whom are experienced in conducting complex securities class action litigation. *See* the respective firm resumes of Lead Counsel attached as Exhibits 2 and 3 to the Affidavit of Jeffrey A. Klafter, filed July 23, 2007 (Docket # 93).

23. In addition, throughout the negotiations, Lead Counsel were conversant in the strengths and weaknesses of the Action, due to their pre-filing investigation and analyses of the documents provided by Defendants, and aggressively advocated the positions of the Lead Plaintiffs and the Class in an effort to maximize the recovery for the Class.

24. The same is true of the efforts necessary to negotiate the terms of the Stipulation of Settlement and its accompanying exhibits. The Stipulation of Settlement was not executed until July 19, 2007, as the exchange of multiple drafts, e-mails, and multiple telephone negotiations were required before the papers were acceptable to Lead Counsel, counsel for the Defendants and counsel for the D&O Insurer.

25. Following the preparation and filing of Lead Plaintiffs' motion and submissions in support of certification of the class for settlement purposes and preliminary approval of the

proposed Settlement, as well as a hearing on August 17, 2007 to consider that motion, the Court certified the Class and preliminarily approved the proposed Settlement on that date.

### **THE SETTLEMENT AND ITS BENEFITS**

#### **Benefits of the Settlement**

26. As described in greater detail in the Stipulation previously submitted to the Court, the Stipulation provides that, in exchange of a release of all Released Claims by the Released Persons, the Defendants have paid the sum of \$2.3 million into an interest bearing Escrow Account. The \$2.3 million payment was made into the Escrow Account maintained at North Fork Bank, N.A. on August 31, 2007. As of October 31, 2007, the value of the funds in the Escrow Account was \$2,313,365.35.

27. The Settlement has been funded by directors and officer liability insurance obtained by Viisage. Viisage had secured \$20 million in such insurance, in four layers, covering the period in which this Action was commenced. As discussed below, the maximum damages Lead Plaintiffs could arguably expect to recover in this Action on behalf of the Class -- which Defendants disputed -- aggregated approximately \$12.9 million. Given the unusual fact that the available insurance far exceeded Defendants' exposure here, there was no basis for obtaining a contribution from any of the Defendants.

#### **Risks of Continued Litigation**

##### **Risks to Establishing Liability**

28. As a result of the pre-filing investigation conducted by Plaintiffs' counsel, analysis of documents provided by Defendants pursuant to the Court's February 27 Order, and give and take during the settlement negotiations concerning the merits of the claims, Lead Counsel had a thorough understanding of the arguments and issues critical to the outcome of the

Action at the time they agreed-in-principle to settle this Action. Although Lead Counsel believe that they had a meritorious case, there were significant issues raised by Defendants that might have made success in the litigation problematic. There was no doubt that Defendants would have continued to vigorously defend the Action had there been no settlement.

29. Lead Plaintiffs believe that evidence supporting their claims that Defendants had misrepresented the adequacy of Viisage's disclosure and internal financial controls would be developed through formal discovery and would be sufficient to defeat any summary judgment motion by Defendants and establish liability, by a preponderance of the evidence, at trial. Nevertheless, they are sober to the risks attendant to litigation such as this generally, and recognize that the vagaries of jury trials suggest that reasonable settlement is often, as in the circumstances surrounding the Action, the preferred method for the resolution of disputes. This is especially true in this Action if it had proceeded, as Defendants vigorously disputed any liability for Plaintiffs' claims, raising substantial risks as to these claims.

30. With regard to the internal control claims alleged in the Complaint, Lead Plaintiffs would have focused on proving the admissions by Defendants that led the Court to allow these claims to proceed to discovery and the details of the internal control deficiencies that were recognized during the Class Period. Specifically, Defendant Aulet admitted on a conference call with the investment community on March 3, 2005 that the Company's internal control deficiencies were well known throughout most of 2004:

The good news is that we recognized this as an area for improvement ***months ago, and we've been working diligently to remedy these issues for some time. Early in 2004***, we brought on Peter Faubert, an experienced CPA and finance manager, who's been a Controller in a public company previously, as our new controller. He has done an outstanding job, but we now need to fill in the organization around him as the Company and the associated complexity of our business has grown.

Complaint ¶¶99 (emphasis added); ¶ 126 (g). Similarly, Defendant Bailey also admitted that the Company's internal control deficiencies were well known throughout 2004. He stated "[w]e have been going through an exhaustive, detailed analysis of our entire control system in this company for the entire year." Complaint ¶¶99.

31. Lead Plaintiffs would have also relied on expert testimony as to the significance of the internal control deficiencies identified by Defendants.

32. Defendants' counsel, however, made clear during the settlement negotiations that they vigorously disputed all of these contentions. Among other arguments, Defendants maintained that the Sarbanes-Oxley Certifications that Lead Plaintiffs' contended were false were provided pursuant to Section 302 of the Sarbanes-Oxley Act -- but that their remediation measures were solely related to compliance with Section 404 of that Act, thereby rendering this claim moot. In addition, Defendants would have contended that by their Certifications, Defendants Bailey and Aulet only represented that Viisage's disclosure controls and procedures provided "reasonable assurance" that information required to be disclosed was in fact disclosed. Defendants further argued that these claims were weakened by the fact that Viisage did not restate any of the financial information disclosed during the Class Period.

33. Lead Plaintiffs would have disputed the merits and relevance of these defenses by arguing that the lack of a restatement is irrelevant as Defendants made freestanding false and misleading statements concerning the adequacy of Viisage's internal controls. Further, Lead Plaintiffs would have maintained that while the internal controls that Defendants Bailey and Aulet admitted were in need of remediation concerned Section 404 compliance, they also related to Section 302 compliance. Lead Plaintiffs would have also contended that the internal control deficiencies were so significant that they resulted in Viisage's inability to timely file its 2004

Form 10-K, and continued inability on the part of Viisage to remedy its internal control deficiencies for over a year thereafter. Complaint ¶¶ 12, 102-105.

34. Following extensive discovery, Defendants would have moved for summary judgment, which, if successful, would terminate the Action unless the grant of summary judgment could be reversed on appeal. If they were not successful in moving for summary judgment, Defendants' counsel made it clear that they would be prepared to try the case. Lead Counsel believe that they would be able to overcome any motion for summary judgment and were also prepared to prove their claims at trial. Nevertheless, Lead Counsel recognize that they faced a risk of summary judgment and that even assuming Lead Plaintiffs overcame a summary judgment motion, juries are unpredictable and that there is certainly a significant risk that a jury could find for Defendants on liability at trial.

#### **Risks to Establishing Damages**

35. Even if Lead Plaintiffs convince a jury that they have established all of elements of liability by a preponderance of the evidence, they would still need to prove damages – an issue that would also be hotly contested at trial. As noted above, Lead Plaintiffs retained FMA and CBIZ to evaluate the damages suffered by the Class. At the outset of this Action, Lead Counsel were aware that damages would be a highly contested issue. In particular, Lead Counsel knew that determining the damages proximately caused by the alleged internal control misrepresentations would be particularly difficult given the fact that Viisage's revelation, after the close of the markets on March 2, 2005, that a "material weakness" existed in its internal accounting controls was accompanied by an announcement -- not related to any alleged fraud -- that Viisage was lowering revenue guidance for 2005 to \$73-\$80 million as compared to prior average revenue estimates of security analysts for 2005 of \$83 million. *Compare* Viisage's

March 2, 2005 Press Release (Attached as Exhibit C, hereto) *with* Needham March 3, 2005 Equity Research Report (Attached as Exhibit D, hereto) (noting that consensus analyst revenue estimates for 2005 were \$82 million prior to Viisage's March 2, 2005 announcement and that Needham was lowering its revenue estimate for 2005 to \$76 million). In addition, by its March 2, 2005 Press Release, Viisage ceased providing EBITDA guidance.

36. Thus, the damage analysis in this case was complicated by the necessity of separating out the decline in Viisage's stock price attributed to Defendants' alleged prior misrepresentations concerning Viisage's internal controls from the decline in Viisage's stock price attributed to issues which were not alleged to have been related to prior misrepresentation/omissions (i.e. the lowered revenue guidance and Viisage's decision to no longer provide EBITDA guidance).

37. Based on the multiple announcements by Viisage on March 2, 2005, Lead Counsel determined, in consultation with their retained damage experts, that the maximum damages per share that Lead Plaintiffs could expect to recover on the internal control disclosure claims which survived the motion to dismiss would be fifty percent of the total \$0.97 decline in the price of Viisage common stock on March 3, 2005. This amount equates to approximately \$12.9 million in aggregate damages, according to FMA. *See* Declaration of Michael Marek, dated October 25, 2007, included in the Compendium of Affidavits and Declarations. To obtain a judgment representing \$0.485 per share, however, Lead Plaintiffs would have to convince a jury that security analysts equally weighted both factors in lowering their estimates and ratings on March 3, 2005. While a number of securities analysts pointed to both Viisage's internal control "material weaknesses" and Viisage's lowered revenue guidance as reasons for their lowered forecasts and ratings for Viisage, it is far from clear that a jury would agree to credit the

Class with half of the March 3, 2005 price decline.

38. In addition, Defendants would have offered expert evidence suggesting that less than five percent of that decline was attributable to Viisage's "material weakness" disclosures which, if accepted by the jury, would result in a damage award to the Class of less than \$1 million. Specifically, Defendants' expert would have relied on at least two studies making that conclusion. *See* the studies included in Exhibit E, hereto.

39. Thus, the proposed Settlement represents approximately 18 percent of the maximum damages computed by FMA and over 230 percent of the largest damage number Defendants' expert can be expected to present at trial - \$1 million.

#### **Additional Risks**

40. In addition to considering these risks to establishing liability and damages at trial, Lead Counsel also considered the heavy burden of proof; the length of time and expense necessary to prosecute the Action through trial and the inevitable subsequent appeals; the uncertainties of the outcome at trial and on appeal of this complex litigation; and the significant, immediate cash benefit provided by the proposed Settlement to the Class. Lead Counsel also considered that the Settlement was reached at a stage of litigation where each side was fully cognizant of the strengths and weaknesses of its case, and only after hard fought arms-length negotiations.

41. Furthermore, the Settlement has been agreed to by each of the Lead Plaintiffs, each of whom were participants in or consulted during the settlement process. *See* Affidavits or Declaration of each Lead Plaintiff, included in the Compendium of Affidavits and Declarations.

42. Based on all of these considerations, it is the opinion of Lead Counsel, who have a high level of expertise in the area of class action securities litigation, that given the risks

associated with the further prosecution of this Action, the Settlement represent a significant result for the Class.

### **THE PLAN OF ALLOCATION**

43. The Plan of Allocation proposed by Lead Plaintiffs is set forth in the Notice mailed to Class members. As noted above, the date for submitting objections to the Plan of Allocation was October 26, 2007, and no objections to the Plan of Allocation have been received by Lead Counsel as of the date of this Affidavit. The Plan of Allocation is the product of Lead Counsel's analysis of the applicable law and consultation with FMA.

44. The Plan of Allocation does not grant preferential treatment to any of the Plaintiffs and no consideration was given to when any of the Plaintiffs purchased or sold Viisage common stock. Lead Counsel adopted the Plan of Allocation after considering the import of *Dura Pharmaceuticals, Inc. v. Broudo*, 544 U.S. 336, 342, 125 S. Ct. 1627 (2005), which was decided after the commencement of this Action, and appellate decisions discussing its import, such as *Emergent Capital Inv. Mgmt. LLC v. Stonepath Group, Inc.*, 343 F.3d 189 (2d Cir. 2003); *Lentell v. Merrill Lynch & Co. Inc.*, 396 F.3d 161 (2d Cir. 2005); and *In re: Daou Systems, Inc., Sec. Litig.*, 411 F.3d 1006, 1026 (9th Cir. 2005).

45. Specifically, in *Dura*, the Supreme Court held that mere "artificial inflation" in a stock price due to alleged fraud was not sufficient to recover damages, and that a plaintiff must show a connection between the alleged misrepresentations and an adverse disclosure that results in the loss. While there is some debate as to how close a connection there must be between the announcement causing a decline in the price of the stock and the alleged misrepresentations in order to be able to recover damages on the price decline, appellate courts and district courts have interpreted *Dura* to bar a recovery of losses absent a showing that the losses were caused by a

public disclosure that at least has some connection to the alleged fraud. Here, the first disclosure of material weaknesses in Viisage's internal controls occurred after the close of the market on March 2, 2005. It is for this reason that the Plan of Allocation only provides for a recovery on shares purchased during the Class Period and held through the close on March 2, 2005. Lead Counsel therefore believe that it provides a fair and reasonable allocation of the Net Settlement Fund to those Class members who could establish damages caused by the misrepresentations at issue. As fully explained in the Notice, all such shares of Viisage common stock are entitled to payment from the Net Settlement Fund on a pro rata basis based on the number of shares so held by Class members that submit timely and valid Proof of Claim forms. *See* pp. 6-7 of the Notice, Exhibit A, hereto.

46. Lead Counsel submit that the foregoing Plan of Allocation is fair and reasonable and warrants the Court's approval.

#### **THE REQUEST FOR ATTORNEYS' FEES AND EXPENSES**

47. The Notice also informed the Class that Lead Counsel would seek an award of attorneys' fees, on behalf of themselves and the other Plaintiffs' Counsel, not to exceed 25 percent of the Settlement Fund, plus unreimbursed expenses not to exceed \$55,000.00. By their Request, Lead Counsel is presently seeking twenty-five percent of the Settlement Fund as attorneys' fees, but only \$41,652.61 less than the indicated maximum amount of expenses to reimburse Plaintiffs' Counsel for their expenses in prosecuting this Action.<sup>6</sup>

48. Although more than 25,154 Notices were distributed, no objections have been received to the Request for Attorneys' Fees and Expenses set forth in the Notice.

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<sup>6</sup> Lead Counsel will divide the fees awarded by the Court among all Plaintiffs' Counsel based upon their assessment of each firm's contribution to the prosecution of the Action.

49. The recovery obtained for the Class, it is respectfully submitted, is due to the competence, tenacity and perseverance of Lead Counsel and the other Plaintiffs' Counsel who assisted in that endeavor, in the face of substantial obstacles to any recovery. Each of those Plaintiffs' Counsel has submitted Affidavits describing their contributions to the prosecution of this Action, which are included in the Compendium of Affidavits and Declarations.

#### **Risks of No Compensation**

50. Plaintiffs' Counsel undertook the litigation on a wholly contingent basis. The considerable efforts of Plaintiffs' Counsel in bringing this case to a successful conclusion are described above and in the Affidavits of Plaintiffs' Counsel. The risks assumed by Plaintiffs' Counsel are also relevant to an attorney fee award. Here, the risks assumed by Plaintiffs' Counsel over the two-plus years they prosecuted this Action before the proposed Settlement was reached, and the time and significant expense incurred without any payment, were extensive, and are described in detail above and in the Memorandum of Law in Support of Lead Counsel's Motion for an Award of Attorneys' Fees and Reimbursement of Expenses, filed herewith.

51. Unlike Plaintiffs' Counsel, Defendants' counsel were compensated on an ongoing basis by their clients throughout the Action.

#### **The Action Was Prosecuted Efficiently**

52. Lead Counsel managed the prosecution of this litigation to achieve the best result for the Class in the most efficient manner. Following the appointment of Lead and Liaison Counsel by the Court, Lead Counsel utilized an investigator employed by Liaison Counsel and supervised his work by means of periodic conference calls. Responsibility for the preparation of the Complaint was divided among Lead Counsel and only reviewed and commented on by all Plaintiffs' Counsel after it was close to final. Similarly, responsibility for responding to

Defendants' motion to dismiss was divided up among Lead Counsel and counsel for Plaintiff Walter Cohutt.

53. I undertook the responsibility for arguing in opposition to Defendants' motion to dismiss. My partner, Kurt Olsen, assisted in my preparation for the extensive arguments held on February 1 and February 23, 2007. I also assumed principal responsibility for the preparation of the supplemental submission on the Georgia DVMS Litigation claims which the Court requested at the conclusion of the February 1 hearing.

54. Following the Court's February 23 Order, I was principally responsible for preparing Lead Plaintiffs' request for documents to assist in considering a potential settlement of the Action; negotiating a confidentiality letter agreement with Defendants' counsel; reviewing the documents provided by Defendants; and discussing the possibility of settlement with Defendants' Counsel. I did not, however, undertake these activities alone. I consulted with my partner, Kurt Olsen, and Co-Lead Counsel and Liaison Counsel as appropriate.

55. Representatives of both Lead Counsel participated in the meeting with Viisage's D&O Insurer in Chicago on May 7, 2007 given its importance and the need for each of our respective clients to approve any settlement. Once an agreement-in-principle was reached, Lead Counsel allocated responsibility for the preparation of the Stipulation of Settlement and its many exhibits. I negotiated the successive drafts with Defendants' counsel.

56. The preparation of Lead Plaintiffs' motion for preliminary approval of the Settlement was also divided up with counsel for Plaintiff Walter Cohutt preparing the initial draft for my review. I also prepared an Affidavit in support of that motion and was responsible for the August 13, 2007 preliminary approval hearing and for addressing the Court's requests for modifications to the Preliminary Approval Order and Notice.

57. Lead Counsel also divided responsibility for the preparation of the Lead Plaintiffs' submissions in support of final approval of the settlement and plan of allocation.

58. With regard to the administration of the settlement, Lead Counsel bid the work out to two claims administrators and selected the lower cost provider—A.B. Data, Ltd. Since then, I have supervised the Claims Administrator in preparing the Notice, Proof of Claim and Summary Notice for dissemination to the members of the Class and in addressing Class member questions.

**Competency of Plaintiffs' Counsel**

59. The expertise and experience of Plaintiffs' Counsel is another important factor in setting a fair fee.

60. As demonstrated by the firm resumes of Lead Counsel, previously submitted to the Court in connection with Lead Plaintiff's Motion for Preliminary Approval of the Settlement, and Lead Counsel are highly experienced in the securities litigation field.

61. The quality of the work performed by Plaintiffs' Counsel, under the leadership of Lead Counsel, in attaining the Settlement should also be evaluated in light of the quality of the opposition. The Defendants are represented by Mitchell Kaplan of Choate, Hall & Stewart LLP, an attorney and firm that has defended many securities class actions and tried one to verdict. As described above, Mr. Kaplan vigorously defended his clients in this Action. In the face of this formidable opposition, Plaintiffs' Counsel sufficiently argued their case so as to persuade Defendants to settle the Action on a basis that is very favorable to the Class, given the considerable risks described above.

62. Given the complexity and magnitude of the Action, the responsibility undertaken by Plaintiffs' Counsel, the difficulty of proof on liability and damages, the experience of counsel

for Plaintiffs and Defendants, and the contingent nature of their agreement to prosecute this litigation, Lead Counsel submit that the Request for Attorneys' Fees and Expenses reasonable.

**The Lodestar and Expenses**

63. Lead Counsel respectfully submits that the fee request, 25 percent of the Settlement Fund is fair and reasonable whether analyzed as a percentage of the fund or under the lodestar approach. The total lodestar for Plaintiffs' Counsels' efforts pursuing claims against Defendants is \$997,934.25.

64. A summary of the amount of hours and lodestar of each of Plaintiffs' Counsel is attached hereto as Exhibit F. This summary was prepared from the summaries included in the Affidavits and Declarations submitted by each Plaintiff's Counsel that are contained in the Compendium of Affidavits and Declarations. The Affiant or Declarant of each such Affidavit or Declaration attests that the schedule was prepared from contemporaneous daily time records regularly prepared and maintained by the firm, which are being submitted to the Court for *in camera* review, and that time expended in preparing Lead Counsel's fee and expense application has not been included in this summary. The Affiants or Declarants further attest that the hourly rates for the attorneys and paralegals who assisted in the prosecution of the Action are comparable to the prevailing rates in this District for attorneys principally engaged in the prosecution of securities class actions. Attached as Exhibit 1 to the Affidavit of Patrick T. Egan is a schedule detailing the current hourly rates of Liaison Counsel, which has a substantial securities class action practice in this District. Attached as Exhibit 1 to the Affidavit of Thomas G. Shapiro in *In re Sepracor Inc. Sec. Litig.*, No. 02-12235-MEL, dated August 10, 2007 and also included in the Compendium of Affidavits and Declarations, is a schedule reflecting the current hourly rates charged by the Shapiro Haber & Urmy LLP firm, also principally engaged in

prosecuting securities class actions in this District.

65. The fee request represents a negative multiplier of 0.576 on the collective lodestar of Plaintiffs' Counsel. Although a positive multiplier would be justified based upon the significant risk of litigation and the quality of the representation by Plaintiffs' Counsel in achieving the proposed Settlement before the Court, Lead Counsel are not seeking a higher amount.

66. Finally, in addition to legal fees, Lead Counsel seeks reimbursement of \$41,652.61 in expenses reasonably and actually incurred by all Plaintiffs' Counsel in the prosecution of the Action, as summarized in Exhibit G, hereto. Lead Counsel maintained strict control over the expenses incurred in prosecuting the Action.

67. Exhibit G was prepared from the data contained in the Affidavits or Declarations of Plaintiffs' Counsel included in the Compendium of Affidavits and Declarations, each of which identifies the specific category of expense, *e.g.*, experts' fees, transcripts, travel costs, photocopying, telephone, fax and postage expenses and other costs actually incurred for which Lead Counsel seeks reimbursement. In addition, each of the Affidavits or Declarations confirms that the expenses of the respective firms included in this application are reflected on the books and records maintained by the firm, which books and records are prepared from expense vouchers, check records and other source materials and are an accurate record of the expenses incurred.

68. Much of the expense request is for payment to Lead Plaintiffs' two experts, FMA and CBIZ, each of whom assisted Lead Counsel in the difficult task of estimating the recoverable damages suffered by the Class in this Action. The bulk of the expert work was performed by FMA, which has submitted an affidavit detailing the work they performed at the request of Lead

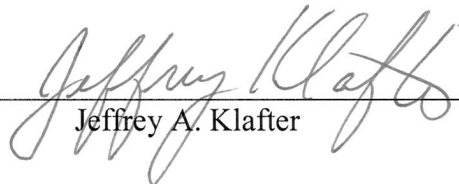
Counsel. Their charges for time and expense total \$17,462.83. All of their work, and that of CBIZ, which billed \$5,017.13, was necessary to the successful prosecution and resolution of this Action.

69. Lead Counsel have also incurred travel costs for the February 1, February 23, August 13, 2007, and upcoming November 16, 2007 hearings before this Court. Lead Counsel also travelled to Chicago for the May 7, 2007 settlement meeting with Viisage's D&O Insurer. Total travel-related costs of Lead Counsel amount to \$6,148.77. All such travel was by coach or billed to the case at coach rates.

70. Plaintiffs' Counsel also incurred photocopying charges of \$2,701.41, of which \$607.02 was for outside copying services and \$2,094.39 was for photocopying in-house at the offices of Plaintiffs' Counsel. The latter was computed based upon no more than a \$0.15 per page charge, which is based upon each firm's assessment of the cost of in-house copying. Those costs exceed those of outside copy services which benefit from economies of scale.

71. I respectfully submit that all of these expenses incurred by Plaintiffs' Counsel in the Action are reasonable in amount and should be reimbursed in full.

72. Therefore, in light of the clear benefits to the Class and the overwhelmingly positive reaction of the Class to the Settlement, I respectfully request that the Court approve the proposed Settlement, the Plan of Allocation, and the Request for Attorneys' Fees and Expenses.

  
Jeffrey A. Klafter

Sworn to before me this  
31<sup>st</sup> day of October 31, 2007.



Notary Public

**CHRISTINA M. HEWITT**  
Notary Public, State of New York  
No. 01HE6084775  
Qualified in Nassau County  
Commission Expires December 16, 2010

# **EXHIBIT A**

**NOTICE OF PENDENCY AND PROPOSED SETTLEMENT OF CLASS ACTION, APPLICATION FOR ATTORNEYS' FEES AND EXPENSES AND FAIRNESS HEARING**

If you bought Viisage Technology, Inc. ("Viisage") common stock during the period from May 12, 2004, through March 2, 2005, inclusive (the "Class Period"), you could get a payment from the class action settlement described below.

A Federal Court authorized this Notice. This is not a solicitation from a lawyer.

**THIS NOTICE OF PENDENCY AND PROPOSED SETTLEMENT OF CLASS ACTION, APPLICATION FOR ATTORNEYS' FEES AND EXPENSES AND FAIRNESS HEARING (THE "NOTICE") RELATES TO A PROPOSED SETTLEMENT OF CLASS CLAIMS ASSERTED IN AN ACTION ENTITLED *IN RE VIISAGE TECHNOLOGY, INC. SECURITIES LITIGATION*, CIVIL ACTION NO. 05-cv-10438-MLW, BROUGHT BY LEAD PLAINTIFFS TURNBERRY ASSET MANAGEMENT, ELECTRONIC TRADING GROUP, LLC, RONALD SAUER, DAVID HANCOCK AND LANCE HANCOCK, ON BEHALF OF THEMSELVES AND THE CLASS DEFINED HEREIN (COLLECTIVELY, "LEAD PLAINTIFFS") AGAINST VIISAGE (NOW KNOWN AS L-1 IDENTITY SOLUTIONS, INC.), BERNARD C. BAILEY, WILLIAM K. AULET, DENIS K. BERUBE, MARCEL YON, BUDDY G. BECK, CHARLES A. LEVINE, THOMAS J. REILLY, HARRIET MOUCHLY-WEISS, PAUL T. PRINCIPATO AND PETER NESSEN (COLLECTIVELY, "DEFENDANTS").**

**THIS NOTICE EXPLAINS IMPORTANT RIGHTS YOU MAY HAVE INCLUDING YOUR POSSIBLE RECEIPT OF CASH CONSIDERATION AS A RESULT OF THE SETTLEMENT AND ALSO CONTAINS A PROOF OF CLAIM FORM THAT YOU MUST COMPLETE AND SUBMIT POSTMARKED BY DECEMBER 21, 2007, IN ORDER TO BE ELIGIBLE TO SHARE IN THE SETTLEMENT. PLEASE READ IT CAREFULLY!**

The proposed Settlement will provide \$2.3 million in cash (the "Settlement Amount") to pay claims of investors who purchased Viisage's publicly traded securities during the period from May 12, 2004, through March 2, 2005, inclusive. The only securities issued by Viisage that were publicly traded during the Class Period were its common stock. Lead Plaintiffs estimate that the average recovery per 100 damaged shares of common stock would be approximately \$6.70 before the deduction of attorney, notice, administrative fees, Taxes, costs and expenses, as approved by the Court. The recovery is explained in greater detail below. As is also explained below, the Parties do not agree on the average amount of damages that would be recoverable if Lead Plaintiffs prevailed on all claims.

The proposed Settlement will resolve a lawsuit over whether the Defendants violated federal securities laws as a result of issuing allegedly false and misleading public statements. The Defendants deny all allegations of wrongdoing. Lead Plaintiffs believe that the proposed Settlement is in the best interests of the members of the Class in that it provides a significant benefit now, as compared to the risk that a smaller or no recovery would be achieved after a trial and appeals, possibly years in the future, in connection with which Defendants would have the opportunity to assert substantial defenses to the claims asserted on behalf of the Class.

Lead Counsel intends to apply for an award of attorneys' fees on behalf of all plaintiffs' counsel (collectively, "Plaintiffs' Counsel") not to exceed 25% of the Settlement Amount. In addition, Lead Counsel intends to apply for reimbursement of expenses paid and incurred by Plaintiffs' Counsel in connection with the prosecution and resolution of this Action, in an amount not to exceed \$55,000.00. If Lead Counsel's Fee and Expense Application is approved by the Court, the average recovery per 100 allegedly damaged shares of common stock would be reduced by approximately \$1.70, for an average net recovery per 100 damaged shares of approximately \$5.00. Plaintiffs' Counsel have litigated this Action on a contingent-fee basis, and have advanced all of the expenses of litigation with the expectation that if they were successful in recovering money for the Class, they would receive attorneys' fees and be reimbursed for their expenses from the recovery, as is customary in this type of litigation.

Your legal rights are affected whether you act, or do not act, so please read this Notice carefully. If you have any questions concerning any matter contained in this Notice, you may contact any of the Lead Counsel identified below or the Claims Administrator as indicated on Pages 5 and 7.

<b>YOUR LEGAL RIGHTS AND OPTIONS CONCERNING THE PROPOSED SETTLEMENT, FEE AND EXPENSE APPLICATION AND/OR PLAN OF ALLOCATION:</b>	
SUBMIT A PROOF OF CLAIM FORM	The only way to get a payment.
REQUEST EXCLUSION FROM THE CLASS	Get no payment, preserve all rights.
OBJECT	Write to the Court about why you do not like any of the above.
APPEAR AT A HEARING	Ask to speak in Court about any of the above.
DO NOTHING	Get no payment. Give up rights.

**THESE RIGHTS AND OPTIONS AND THE DEADLINES TO EXERCISE THEM ARE EXPLAINED IN THIS NOTICE.**

The issuance of this Notice is not intended to be an expression of the Court's opinion on the merits of any claim in the Action and the Court in charge of this case still has to decide whether to enter a judgment approving the proposed Settlement. Payments will be made if the Court approves the proposed Settlement, after appeals are resolved, and after the completion of all claims processing. Please be patient.

Any questions regarding the proposed Settlement should be directed to the following Lead Counsel: Robert N. Cappucci, Esq., Entwistle & Cappucci LLP, (212) 894-7200 or Jeffrey A. Klafter, Esq., Klafter & Olsen LLP, (914) 997-5656. DO NOT CONTACT THE COURT.

**WHY DID I GET THIS NOTICE?**

This Notice is given pursuant to Rule 23 of the Federal Rules of Civil Procedure and pursuant to an Order of the United States District Court for the District of Massachusetts (the "Court"). The purpose of this Notice is to inform you: (1) that the Court has, for settlement purposes only, certified this Action as a class action, on behalf of a class consisting of all persons who purchased Viisage's publicly traded securities during the Class Period from May 12, 2004, through March 2, 2005, inclusive, with certain exclusions set forth in the footnote below (the "Class");<sup>1</sup> (2) of the proposed Settlement that has been reached in this class action between Lead Plaintiffs, individually and on behalf of the Class, and Defendants; (3) of a hearing (the "Fairness Hearing") to be held by the Court to consider the fairness, reasonableness, and adequacy of the proposed Settlement and at which the Court may also consider approval of the Plan of Allocation and the application of Lead Counsel on behalf of all Plaintiffs' Counsel for attorneys' fees and reimbursement of expenses, described below.

Pursuant to an Order of the Court dated August 17, 2007 (the "Preliminary Approval Order"), the Fairness Hearing will be held at 3:00 p.m. on November 16, 2007, before the Honorable Mark L. Wolf in Courtroom 10 of the United States District Court for the District of Massachusetts, John Joseph Moakley United States Courthouse, 1 Courthouse Way, Boston, Massachusetts 02210.

**RECEIPT OF THIS NOTICE DOES NOT NECESSARILY MEAN THAT YOU ARE A MEMBER OF THE CLASS ("CLASS MEMBER") OR ARE ENTITLED TO RECEIVE PROCEEDS FROM THE PROPOSED SETTLEMENT. IF YOU WISH TO PARTICIPATE IN THE PROPOSED SETTLEMENT, YOU MUST SUBMIT THE ENCLOSED PROOF OF CLAIM FORM TO THE CLAIMS ADMINISTRATOR POSTMARKED BY DECEMBER 21, 2007.**

**PLEASE BE ADVISED THAT THE COURT MAY ALTER THIS OR ANY OF THE OTHER DEADLINES SET FORTH IN THIS NOTICE FOR GOOD CAUSE SHOWN.**

**WHAT RECOVERY DOES THE PROPOSED SETTLEMENT PROVIDE?**

Pursuant to the Settlement described herein, the Defendants have agreed to pay or cause to be paid a total of \$2.3 million in cash for the benefit of the Class. The Settlement Amount, less notice and administration expenses and attorneys' fees and expenses awarded to Plaintiffs' Counsel (the "Net Settlement Fund") will be distributed in accordance with a plan of allocation (the "Plan of Allocation") described below. Under the proposed Plan of Allocation, the expected recovery from the proposed Settlement per 100 damaged shares of common stock would be approximately \$6.70. However, your actual recovery from the Net Settlement Fund will depend on a number of variables including the number of Viisage shares of common stock you purchased during the Class Period, whether those shares were held as of the close of the market on March 2, 2005, whether those shares were sold on or before June 1, 2005, the total number of shares for which timely and valid Proof of Claim forms are submitted by Class Members ("Authorized Claimants"), and the amount of attorneys' fees and expenses awarded by the Court. See "HOW MUCH WILL MY PAYMENT BE?", on Page 3 below.

**WHAT MIGHT HAVE HAPPENED IF THE PARTIES HAD NOT AGREED TO THE PROPOSED SETTLEMENT?**

Lead Plaintiffs and Defendants do not agree on the average amount of damages per share of Viisage common stock that would be recoverable if Lead Plaintiffs were to have prevailed on the Class' claims asserted in the Action that were not dismissed by the Court. The issues on which the Parties disagree include, among other things, the amount of damage, if any, allegedly caused by the alleged misrepresentations and omissions set forth in the claims that were not dismissed by the Court. If Lead Plaintiffs failed to establish any essential legal or factual element of their claims, neither they nor the Class would recover anything from Defendants. Also, if Defendants were successful in proving any of their asserted challenges to recoverable damages, Plaintiffs would likely recover substantially less than the Settlement Amount of \$2.3 million, or recover nothing.

**WHAT IS THIS CASE ABOUT? WHAT HAS HAPPENED SO FAR?**

This securities class action was commenced on March 8, 2005, alleging violations of the federal securities laws on behalf of certain investors in Viisage. By Order dated January 19, 2006, pursuant to the Private Securities Litigation Reform Act of 1995 (the "PSLRA"), the Court appointed Turnberry Asset Management, Electronic Trading Group, LLC, Ronald Sauer, David Hancock, and Lance Hancock as Lead Plaintiffs and approved their selection of Klafter & Olsen LLP and Entwistle & Cappucci LLP as Lead Counsel in the Action. Lead Plaintiffs filed their Consolidated Amended Class Action Complaint on February 27, 2006 (the "Complaint"), which alleged, among other things, that Viisage issued press releases and filed documents with the Securities and Exchange Commission (the "SEC"), and that certain of the Individual Defendants made statements during conference calls with securities analysts, which contained materially false and misleading statements concerning: (1) litigation with which Viisage was involved in connection with a contract it had obtained with the Georgia Department of Motor Vehicle Safety ("DMVS") to provide secure drivers licenses for the State (the "Georgia DMVS Litigation"); and (2) Viisage's disclosure controls and internal financial controls. The Complaint further alleged that these materially false and misleading statements were made with knowledge of, or in reckless disregard of, the true facts. Lead Plaintiffs asserted in the Complaint that, in connection with this alleged wrongdoing, Defendants violated Sections 11 and 15 of the Securities Act of 1933 and Sections 10(b) (and Rule 10b-5 promulgated thereunder) and 20(a) of the Securities Exchange Act of 1934, and caused damages to Lead Plaintiffs and the members of the Class. By their Complaint, Lead Plaintiffs sought money damages plus interest, costs and attorneys' fees from Defendants.

<sup>1</sup> Excluded from the Class are: (i) the Defendants herein, the directors, officers and employees of Viisage, the members of each Individual Defendant's immediate families, any entity in which any Defendant has a controlling interest, and the legal affiliates, representatives, heirs, controlling persons, successors and predecessors in interest or assigns of any such excluded party; and (ii) those Persons who submit a valid and timely request for exclusion from the Class pursuant to the instructions set forth in this Notice.

Case 1:05-cv-01438-MW Document 107-2 Filed 11/02/07 Page 4 of 27

On April 3, 2006, Defendants filed a motion to dismiss the Complaint, which motion was opposed by Lead Plaintiffs. The Court held oral argument on Defendants' motion to dismiss on February 1, 2007, at which time, following extensive oral argument, the Court denied the motion to dismiss Lead Plaintiffs' claims concerning Viisage's disclosure controls and internal financial controls, but requested each of the Parties to submit further briefing on Lead Plaintiffs' claims concerning the Georgia DMVS Litigation disclosures. These supplemental briefs were filed with the Court on February 14, 2007. The Court then held further argument concerning the Georgia DMVS Litigation disclosures on February 23, 2007, at which time the Court determined to allow Defendants' motion to dismiss those claims. On February 27, 2007, the Court entered an Order memorializing these rulings (the "February 27 Order"). Accordingly, the only claims allowed to proceed to discovery by the Court were Lead Plaintiffs' claims concerning statements made during the Class Period in certain of Viisage's filings with the Securities and Exchange Commission regarding the effectiveness of Viisage's disclosure controls and internal financial controls.

The February 27 Order further directed the Parties to, by April 27, 2007: (1) meet to discuss a possible settlement of the Action; (2) exchange certain information to assist the Parties in discussing settlement; and (3) report to the Court on the status of those discussions and to present a proposed scheduling order to govern the case in the event a settlement was not achieved. In accordance with the February 27 Order, Defendants' counsel provided Lead Counsel with seven hundred and seventy pages of documents concerning Viisage's disclosure and internal financial controls during the Class Period and Lead Counsel provided Defendants' counsel with documents and information concerning trading in Viisage common stock by certain of the Lead Plaintiffs.

#### **WHAT LED UP TO THE PROPOSED SETTLEMENT?**

In accordance with the February 27 Order, counsel for the Parties engaged in settlement discussions but were unable to reach agreement by April 27, 2007, and therefore negotiated and submitted a Proposed Joint Pretrial Scheduling Order (the "Proposed Order") for the Court's approval on that date. However, as the Parties were still engaged in settlement negotiations, the Proposed Order contained a three-week delay before the commencement of formal discovery in which to conduct further negotiations. Despite the efforts of counsel for the Parties, during this three-week period, no agreement was reached. Accordingly, Defendants answered the Complaint on May 14, 2007, and the Parties were prepared to commence discovery upon entry of the Proposed Order.

Following the submission of the Proposed Order, however, the Parties made further efforts to reach a settlement and finally reached an agreement-in-principle to settle this Action for the Settlement Amount on June 13, 2007, subject to the negotiation of a definitive stipulation of settlement and releases in forms satisfactory to counsel for all Parties, and approval of that Stipulation of Settlement by the Court. The proposed Settlement described herein is the product of extensive arm's length negotiations between Lead Counsel and Defendants' Counsel.

#### **WHAT ARE THE REASONS FOR THE SETTLEMENT?**

Lead Plaintiffs and Lead Counsel believe that the claims asserted in the Action have merit. However, they recognize and acknowledge the expense and length of continued proceedings necessary to prosecute this Action through trial and appeals and the uncertain outcome of such proceedings. In particular, Lead Plaintiffs and Lead Counsel have considered the likelihood of proving liability and damages on the internal control claims that the Court allowed to proceed to discovery. Following extensive discovery, Defendants would have moved for summary judgment, which, if successful, would terminate the Action unless the grant of summary judgment could be reversed on appeal. Lead Plaintiffs and Lead Counsel also took into account the issues that would have to be decided by a jury if summary judgment was denied, including whether any statement made by any of the Defendants was false, whether the Defendants acted with scienter (knowingly or recklessly), a predicate for liability on certain of Lead Plaintiffs' claims, whether each of the alleged misrepresentations and omissions were material, and the amount of any damages caused by the alleged misrepresentations and omissions. Proof of damages caused by the alleged misrepresentations and omissions concerning Viisage's internal disclosure and financial controls would also be particularly problematic as Viisage made other disclosures in its announcement on March 2, 2005, in which Viisage first publicly disclosed material weaknesses in these controls. Lead Plaintiffs and Lead Counsel have also taken into account the uncertain outcome and trial risk in complex actions such as this Action. Based upon consideration of these factors, which could have led to a smaller or no recovery at all after a trial and appeals, possibly years in the future, and balancing them against the certain and significant benefits that the Class will receive as a result of the proposed Settlement, Lead Plaintiffs and Lead Counsel determined that the proposed Settlement described herein is fair, reasonable and adequate and that it is in the best interests of the Class to settle the Action on the terms described herein.

Prior to agreeing to the proposed Settlement, Lead Counsel conducted an extensive investigation and discovery relating to the events and transactions underlying the claims. Lead Counsel also retained and had the benefit of experts in calculating damages in actions such as this.

#### **WHY HAVE THE DEFENDANTS AGREED TO THE PROPOSED SETTLEMENT?**

Defendants have denied and expressly continue to deny any wrongdoing, fault, liability, violation of law or damage alleged in the Complaint and do not admit or concede any wrongdoing, fault, liability, violation of law or damage in connection with any facts or claims that have been or could have been alleged against them by the Lead Plaintiffs, but consider it desirable for the Action to be settled and dismissed because the proposed Settlement will: (i) bring to an end the substantial expenses, burdens, risks and uncertainties associated with continued litigation of this Action; (ii) finally put to rest those claims and the underlying matters; and (iii) avoid further expense and disruption of the management and operation of Defendants' business due to the prosecution and defense of this Action.

#### **HOW MUCH WILL MY PAYMENT BE?**

If the proposed Settlement is approved by the Court and you are entitled to a payment, your share of the Net Settlement Fund will depend on the number of valid Proof of Claim forms that Class Members submit, the number of shares of Viisage common stock you purchased, and when you purchased and/or sold those shares, as described in the Plan of Allocation that is included on Pages 6 and 7 of this Notice.

By following the Plan of Allocation at the end of this Notice, you can calculate your Recognized Loss. The Claims Administrator will distribute the Net Settlement Fund according to the Plan of Allocation after all Proof of Claim forms have been processed, the Settlement has been approved by the Court, and any appeals have been resolved in favor of approval of the Settlement or the time for any appeals has expired.

**HOW DO I PARTICIPATE IN THE SETTLEMENT? WHAT DO I NEED TO DO?**

To qualify for a payment out of the Net Settlement Fund, you must complete and sign the Proof of Claim form enclosed with this Notice and mail it by First-Class Mail to:

**In re Viisage Technology, Inc. Securities Litigation**  
**Claims Administrator**  
**c/o A.B. Data, Ltd.**  
**Post Office Box 170500**  
**Milwaukee, WI 53217**

Proof of Claim forms must be postmarked no later than **December 21, 2007**. If a Class Member chooses to submit his, her, or its Proof of Claim form in a manner other than by First-Class Mail, then it must be actually received at the address on the Proof of Claim form no later than **December 21, 2007**.

Review the Proof of Claim form and read the instructions carefully. The Proof of Claim form must be supported by such documents specified in the Proof of Claim form as are reasonably available to you. The Proof of Claim form includes the Releases set forth below. Any member of the Class who fails to submit a Proof of Claim form postmarked or received by **December 21, 2007**, and who does not exclude himself, herself or itself from the Class, shall be forever barred from receiving any payments pursuant to the proposed Settlement described herein, but in all other respects will be subject to and bound by the provisions of any judgment entered, including but not limited to the releases included therein. This means that if the proposed Settlement is approved by the Court, each Class Member will be deemed to have released the Released Claims against the Released Persons, as defined below, and will be enjoined and prohibited from filing, prosecuting, or pursuing any of the Released Claims against the Released Persons regardless of whether or not you submit a Proof of Claim form.

**If you have any questions, or need help completing the Proof of Claim form, please call the Claims Administrator at (866) 217-4245 toll-free or send e-mail to [info@abdatalawserve.com](mailto:info@abdatalawserve.com) for further assistance.**

**WHEN WILL I RECEIVE MY PAYMENT?**

The Court will hold a hearing on November 16, 2007, to consider whether to approve the proposed Settlement. The Net Settlement Fund cannot be distributed until after the Court has approved the proposed Settlement and any appeals have been resolved in favor of its approval, or after the expiration of the time to file an appeal. The resolution of any appeals may take more than a year. In addition, the review and processing of Proof of Claim forms must be completed by the Claims Administrator before Net Settlement Fund distributions may be made. Claims processing, by itself, is a complicated process and will take many months. Please be patient.

**WHAT RIGHTS AM I GIVING UP TO RECEIVE A PAYMENT?**

If you are a Class Member or you are the legal representative of a Class Member and the proposed Settlement is approved by the Court and becomes final, you, on behalf of yourself, your heirs, executors, administrators, successors, assigns, and any persons you represent, will release all "Released Claims," including all "Unknown Claims," against all "Released Persons" as follows:

- (a) "Released Claims" shall collectively mean any and all claims (including Unknown Claims, as defined below), debts, demands, liabilities, rights and causes of action of every nature and description whatsoever (including, but not limited to, any claims for damages, restitution, interest, attorneys' fees, expert or consulting fees, and any other costs, expenses or liability whatsoever), whether based on federal, state, local, statutory or common law or any other law, rule or regulation, whether fixed or contingent, accrued or unaccrued, liquidated or unliquidated, at law or in equity, matured or unmatured, whether class or individual in nature, based upon or related to the purchase of Viisage publicly traded securities during the Class Period and the facts, transactions, events, occurrences, acts, disclosures, statements, omissions or failures to act which were or could have been alleged in the Action against any of the Released Persons, except claims to enforce the Settlement or any of its terms.
- (b) "Released Persons" means any and all of the Defendants, their respective present and former parents, subsidiaries, divisions, and affiliates, the present and former employees, officers, and directors of each of them, the present and former trustees, attorneys, accountants, insurers, partners, principals, and agents of each of them, and the predecessors, heirs, executors, administrators, successors, and assigns of each of them, and any person or entity which is or was related to or affiliated with any Released Person or in which any Released Person has or had a controlling interest and the present and former employees, officers, directors, attorneys, accountants, insurers, partners, principals, and agents of each of them
- (c) "Unknown Claims" means any and all Released Claims that the Lead Plaintiffs or any other Class Members do not know or suspect to exist in their favor at the time of the release of the Defendants and the Released Persons including, without limitation, claims that, if known by them, might have affected their decisions to settle with and release the Defendants and the Released Persons, or might have affected their decisions whether to object to this Settlement.
- (d) If you are a Class Member, all of the Court's proceedings, rulings, orders, and judgments will apply to you and legally bind you.

**CAN I EXCLUDE MYSELF FROM THE CLASS?**

**YOU WILL BE EXCLUDED FROM THE CLASS ONLY UPON SPECIFIC WRITTEN REQUEST AS DESCRIBED BELOW.** If you request to be excluded, you will not be entitled to share in any recovery obtained by the Lead Plaintiffs by settlement or favorable judgment in the Action, including the proposed Settlement with the Defendants described in this Notice. You also will not be bound by any judgment in favor of either the Lead Plaintiffs or Defendants.

You may request to be excluded from the Class by timely mailing a written Request for Exclusion, POSTMARKED ON OR BEFORE **OCTOBER 26, 2007**, to:

**EXCLUSIONS**  
**Claims Administrator**  
**c/o A.B. Data, Ltd.**  
**Post Office Box 170500**  
**Milwaukee, WI 53217**

Your Request for Exclusion should include the name of the beneficial owner (including the name of any joint owner of Viisage common stock), your address, the number of shares of Viisage common stock purchased and sold during the Class Period, the date(s) of such purchase(s) and sale(s) and the price(s) paid and received, and should specifically state that you request to be excluded from the Class in the Action. Each individual or entity requesting exclusion must personally sign a Request for Exclusion. In the case of an entity requesting exclusion, an officer, general partner, or trustee must sign the Request for Exclusion and indicate his/her name and authority to sign on behalf of the entity.

**DO I HAVE A LAWYER IN THIS CASE?**

Yes. The Court appointed Klafter & Olsen LLP and Entwistle & Cappucci LLP as Lead Counsel in the Action to represent all Class Members in this Action. You will not be charged for these lawyers, although they will ask the Court to award them a portion of the Settlement Amount as a fee for the services of all Plaintiffs' Counsel to Lead Plaintiffs and the Class and to reimburse them for their expenses in prosecuting this Action. If you want to be represented by your own lawyer, you may hire one at your own expense.

**HOW WILL THE LAWYERS BE PAID?**

Lead Counsel for the Lead Plaintiffs will apply, on behalf of all Plaintiffs' Counsel, in one or more applications, to the Court for an award of attorneys' fees from the Settlement Amount of twenty-five percent (25%) of the Settlement Amount, and reimbursement of expenses of no greater than \$55,000.00 (the "Request for Attorneys' Fees and Expenses"). If this amount is awarded by the Court, the average estimated cost per 100 allegedly damaged shares is \$1.70, for an average net recovery per 100 damaged shares of approximately \$5.00. Plaintiffs' Counsel have spent more than two years litigating this Action on an entirely contingent-fee basis, and have advanced all of the expenses of litigation with the expectation that if they were successful in recovering money for the Class, they would receive attorneys' fees and be reimbursed for their expenses from any funds recovered on behalf of the Class, as is customary in this type of litigation. Any amounts awarded by the Court will come out of the Settlement Amount.

**WHEN AND WHERE WILL THE COURT DECIDE WHETHER TO APPROVE THE PROPOSED SETTLEMENT, PLAN OF ALLOCATION AND REQUEST FOR ATTORNEYS' FEES AND EXPENSES?**

As noted above, the Fairness Hearing will be held on November 16, 2007 at 3:00 p.m. in Courtroom 10 of the United States District Court for the District of Massachusetts, John Joseph Moakley United States Courthouse, 1 Courthouse Way, Boston, Massachusetts 02210, at which the Court will consider, among other things, whether the proposed Settlement of the Action on the terms and conditions provided in the Settlement Agreement is fair, reasonable, and adequate and should be approved by the Court; whether the proposed Plan of Allocation of the Net Settlement Fund is fair, reasonable, and adequate and should be approved by the Court; and whether a Final Judgment substantially in the form of Exhibit B to the Settlement Agreement should be entered in this Action. The Court expressly reserves the right to adjourn the Fairness Hearing from time to time without any further written notice to Class Members, other than notice posted at the Court on the date of the Fairness Hearing. At or after the Fairness Hearing, the Court will also consider whether to approve Lead Counsel's Request for Attorneys' Fees and Expenses and the Plan of Allocation described herein.

**WHAT CAN I DO IF I DO NOT LIKE THE PROPOSED SETTLEMENT, THE REQUEST FOR ATTORNEYS' FEES AND EXPENSES, AND/OR THE PLAN OF ALLOCATION?**

If you are a Class Member, you can object to the Settlement, the Request for Attorneys' Fees and Expenses and/or the Plan of Allocation if you do not like any part of it. If you object to the Settlement, the Request for Attorneys' Fees and Expenses and/or the Plan of Allocation, you can present reasons why you think the Court should not approve any of them. To object, you must send a letter saying what you object to and the reasons for your objection. Be sure to include the case name and number: "In re Viisage Technology, Inc. Securities Litigation, Civil Action No. 05-cv-10438-MLW (D. Mass.)," your name, current address, telephone number, and signature, information concerning your purchase(s) and sale of Viisage common stock during the Class Period and through June 1, 2005, including the number of such shares purchased and sold, the dates of purchase and sale, the reason(s) you object to the proposed Settlement, the Request for Attorneys' Fees and Expenses and/or the Plan of Allocation, and all legal support you wish to bring to the Court's attention or evidence you have to support your objection. You must mail or deliver copies of your objection and of any papers you would like to present to the Court to all of the people identified below such that they are received no later than **October 26, 2007**:

**THE COURT**

Clerk of the Court  
United States District Court  
for the District of Massachusetts  
John Joseph Moakley U.S. Courthouse  
1 Courthouse Way, Suite 2300  
Boston, MA 02210

**LEAD COUNSEL FOR PLAINTIFFS**

Jeffrey A. Klafter, Esq.  
KLAFTER & OLSEN LLP  
1311 Mamaroneck Avenue, Suite 220  
White Plains, NY 10605  
Robert N. Cappucci, Esq.  
ENTWISTLE & CAPPUCCI LLP  
280 Park Avenue, 26<sup>th</sup> Floor West  
New York, NY 10017

**COUNSEL FOR DEFENDANTS**

Mitchell H. Kaplan, Esq.  
CHOATE HALL & STEWART LLP  
Two International Place  
Boston, MA 02110

Any objection may be filed and served on the Clerk of the Court or the attorney hired at your own expense. If you file and serve an objection, you may, but are not required to, appear at the Fairness Hearing, either in person or through an attorney hired at your own expense. If you hire an attorney to represent you at the Fairness Hearing, the attorney must file a notice of appearance with the Clerk of the Court and deliver a copy of that notice to Lead Counsel and Defendants' Counsel, at the addresses set forth above, so that they are received no later than **October 26, 2007**.

ANY CLASS MEMBER WHO DOES NOT OBJECT IN THE MANNER DESCRIBED ABOVE WILL BE DEEMED TO HAVE WAIVED ANY OBJECTION, AND SHALL BE FOREVER FORECLOSED FROM MAKING ANY OBJECTION TO THE PROPOSED SETTLEMENT, THE FEE AND EXPENSE APPLICATION, AND/OR THE PROPOSED PLAN OF ALLOCATION, UNLESS THE COURT ORDERS OTHERWISE.

Class Members who do not object to the Settlement, Fee and Expense Application and Plan of Allocation need not appear at the Fairness Hearing.

#### **WHAT IS THE DIFFERENCE BETWEEN OBJECTING AND REQUESTING EXCLUSION?**

Objecting is telling the Court that you do not like something about the Settlement, Plan of Allocation or Request for Attorneys' Fees and Expenses. You can object only if you are a Class Member. If you submit a Request for Exclusion, that tells the Court that you do not want to be a Class Member, and therefore you cannot object because the Action no longer affects you.

#### **WHAT WILL HAPPEN IF I DO NOTHING AT ALL?**

If you fail to submit a timely Proof of Claim form in response to this Notice, you will not get any money from this Settlement. Whether or not you submit a timely Proof of Claim form, if you are a Class Member, you will not ever be able to start a lawsuit, continue with a lawsuit, or be part of any other lawsuit against any Defendant or other Released Person asserting any of the Released Claims, as described above.

#### **WHAT IS THE PLAN OF ALLOCATION?**

The Plan of Allocation is the method by which the Net Settlement Fund will be allocated among Authorized Claimants that submit timely, valid and signed Proof of Claim forms. It is the product of Lead Counsel's investigation and discovery, and consultation with their damage expert. In formulating this Plan of Allocation, Lead Counsel considered the applicable law governing the ability to recover damages for the alleged internal control claims – the only claims allowed to proceed by the Court.

Shortly following the commencement of this Action, the United States Supreme Court issued a decision concerning the ability of purchasers of securities to recover losses in a securities fraud action such as this. The Supreme Court held that to recover damages, a plaintiff must show a connection between the alleged misrepresentations and the loss. Since this decision, appellate courts have interpreted it to bar a recovery of losses absent a showing that any losses were caused by a public disclosure concerning the alleged fraud. Here, the first disclosure of material weaknesses in Viisage's internal controls occurred after the close of the market on March 2, 2005.

Specifically, on March 2, 2005, after the close of the market, Viisage issued a press release reporting its fourth quarter financial results, which largely conformed to the preliminary results announced by Viisage on February 7, 2005. Viisage also disclosed in its March 2, 2005, press release that "the Company determined that it had an internal control deficiency that constitutes a 'material weakness'...." Further, Viisage held a conference call with securities analysts at 8:00 a.m. on March 3, 2005, during which it amplified on its internal control deficiencies and also indicated that Viisage expected fiscal year 2005 revenues to be "between \$73 million and \$80 million" as compared to security analyst then consensus revenue estimates of approximately \$83 million. Further, contrary to its prior practice of providing guidance for Earnings Before Income Tax, Depreciation and Amortization ("EBITDA"), Viisage stated that, "we have decided to not give specific guidance on that number...." Following these disclosures, the price of Viisage common stock declined by \$0.97 per share (or 17.7%) on March 3, 2005 (not taking into account the 2-for-5 reverse stock split in December 2005). Also, following Viisage's March 2, 2005, and March 3, 2005, revelations, security analysts generally reduced their estimates and ratings on Viisage common stock due to Viisage's lowered revenue estimates and its internal control deficiencies. Parsing out the portion of the decline in Viisage's stock price on March 3, 2005 that plaintiffs contend was due to the internal control disclosures was the subject of an extensive disagreement among the Parties and would have been hotly debated by expert witnesses retained by Lead Plaintiffs and Defendants. For purposes of this Plan of Allocation, given that security analysts focused on both Viisage's lowered revenue guidance and the internal control issues in their reports, it is assumed that 50% of the \$0.97 decline per share of Viisage common stock on March 3, 2005 (or \$0.485), was caused by the revelations concerning the alleged internal control misrepresentations and omissions.

Based on these factors, each Authorized Claimant's Recognized Loss will be calculated for purposes of the proposed Settlement as follows:

- (a) For shares of Viisage common stock THAT WERE PURCHASED DURING THE PERIOD MAY 12, 2004, AND MARCH 2, 2005, INCLUSIVE, AND STILL HELD AS OF THE CLOSE OF THE MARKET ON MARCH 2, 2005 (the end of the Class Period), the Recognized Loss per share shall be the lesser of: (1) \$0.485; and (2) if sold prior to June 1, 2005 [the 90-day period after March 2, 2005], the difference between (x) the purchase price paid and (y) the sales price. If you did not incur a loss based upon shares of common stock purchased during the Class Period and sold during the period March 3, 2005, through and including June 1, 2005, then the Recognized Loss per share shall be \$0.00.
- (b) For shares of Viisage common stock THAT WERE PURCHASED DURING THE PERIOD MAY 12, 2004, AND MARCH 2, 2005, INCLUSIVE, AND SOLD DURING THE SAME PERIOD, the Recognized Loss per share shall be \$0.00 because both the purchase and sale occurred during a period when there was no public disclosure of a material weakness in Viisage's internal controls. As a result, any losses on such transactions are not compensable pursuant to the federal security law claims asserted in this Action.

The date of purchase or sale is the "contract" or "trade" date as distinguished from the "settlement" date. The determination of the price received per share and the price paid per share shall be exclusive of commissions, taxes, fees and charges.

For purposes of calculating the Recognized Loss of an Authorized Claimant, the First-In, First-Out ("FIFO") method will be used. This means that sales of Viisage common stock will be first matched with any pre-Class Period holdings and then with purchases during the Class Period in chronological order. All profits determined on a FIFO basis shall be subtracted from the total of all losses determined on a FIFO basis from all transactions in Viisage common stock during the Class Period to determine if an Authorized Claimant has a Recognized Loss. If at any time more shares of Viisage common stock are sold than have been purchased during the Class Period, an initial balance of a corresponding number of shares will be required as indicated on the Proof of Claim form and acceptable documentation showing the initial balance is provided. ONLY IF AN AUTHORIZED CLAIMANT HAD A NET LOSS, AFTER THE TOTAL OF SUCH PROFITS ARE SUBTRACTED FROM THE TOTAL OF SUCH LOSSES, WILL SUCH AUTHORIZED CLAIMANT BE ELIGIBLE TO RECEIVE A DISTRIBUTION FROM THE NET SETTLEMENT FUND.

Any person or entity who sold Viisage common stock "short" shall have no Recognized Loss with respect to any purchase during the Class Period to cover such short sale.

To the extent there are sufficient funds in the Net Settlement Fund, each Authorized Claimant will receive an amount equal to the Authorized Claimant's Recognized Loss. If, however, the amount in the Net Settlement Fund is not sufficient to permit payment of the total Recognized Loss of each Authorized Claimant, then each Authorized Claimant shall be paid the percentage that each Authorized Claimant's Recognized Loss bears to the total of the Recognized Losses of all Authorized Claimants. As such, each Authorized Claimant will receive a *pro rata* share of the Net Settlement Fund. The Court has reserved jurisdiction to allow, disallow, or adjust the Recognized Loss of any Class Member on equitable grounds.

Please note that the term "Recognized Loss" is used solely for calculating the amount of participation by Authorized Claimants in the Net Settlement Fund, and does not reflect the actual amount an Authorized Claimant can expect to recover.

No Authorized Claimant will have any claim against Lead Plaintiffs, Plaintiffs' Counsel, the Claims Administrator, or any other person designated by Lead Counsel, based on distributions made substantially in accordance with this Plan of Allocation, or further orders of the Court. No Authorized Claimant or any other Person shall have any claim against Defendants or Defendants' Counsel based on the amounts of any distributions from the Net Settlement Fund, any determinations regarding that Person's eligibility to receive a distribution from the Net Settlement Fund, or any rejection of that Person's claim to receive a distribution from the Net Settlement Fund.

#### **SPECIAL NOTICE TO SECURITIES BROKERS AND OTHER NOMINEES**

If you held Viisage common stock that was purchased during the Class Period as nominee for a beneficial owner, then within ten (10) days after you receive this Notice, you must either: (a) mail copies of this Notice and the accompanying Proof of Claim form by First-Class Mail to each such beneficial owner; or (b) send a list of the names and addresses of such beneficial owners to the Claims Administrator to the following address. You may also e-mail or fax your requests to:

##### **In re Viisage Technology, Inc. Securities Litigation**

**Claims Administrator**

**c/o A.B. Data, Ltd.**

**Attention: Fulfillment Department**

**Post Office Box 170500**

**4057 North Wilson Drive**

**Milwaukee, WI 53217**

**Telephone (866) 561-6065**

**Facsimile (414) 963-7950**

**[fulfillment@abdatalawserve.com](mailto:fulfillment@abdatalawserve.com)**

#### **WHO SHOULD I CONTACT IF I HAVE QUESTIONS OR WANT MORE DETAILS ABOUT THE SETTLEMENT?**

This Notice summarizes the proposed Settlement. More details are contained in the formal Settlement Agreement that has been filed with the Court. In addition, Lead Plaintiffs' submissions in support of the proposed Settlement, the Plan of Allocation and Lead Counsel's Fee and Expense Application will be on file with the Court on November 2, 2007.

If you want a copy of the Settlement Agreement, Lead Plaintiffs' submissions in support of the proposed Settlement, the Plan of Allocation or Lead Counsel's Fee and Expense Application, or if you have any questions about these matters, you may write to Lead Counsel at one of the addresses set forth on Page 5 or write to the Claims Administrator at:

##### **In re Viisage Technology, Inc. Securities Litigation**

**Claims Administrator**

**c/o A.B. Data, Ltd.**

**Post Office Box 170500**

**Milwaukee, WI 53217**

You may also call the In re Viisage Technologies, Inc. Securities Litigation Helpline at (866) 217-4245 toll-free or visit [abdatalawserve.com](http://abdatalawserve.com) for additional information.

PLEASE DIRECT YOUR QUESTIONS TO THE CLAIMS ADMINISTRATOR OR TO LEAD COUNSEL FOR PLAINTIFFS.

DO NOT CONTACT THE COURT OR  
DEFENDANTS' COUNSEL WITH

QUESTIONS. DATED: AUGUST 17, 2007

BY ORDER OF THE UNITED STATES

DISTRICT COURT FOR THE

DISTRICT OF MASSACHUSETTS

# **EXHIBIT B**

**UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS**

**In re VIISAGE TECHNOLOGY, INC.  
SECURITIES LITIGATION**

**Civil Action No. 05-cv-10438-MLW**

**This Pleading Applies to: All Actions**

**ORDER CERTIFYING THE CLASS, PRELIMINARILY APPROVING  
SETTLEMENT AND PROVIDING FOR NOTICE TO THE CLASS**

WHEREAS:

A. Lead Plaintiffs Turnberry Asset Management, Electronic Trading Group, LLC, Ronald Sauer, David Hancock and Lance Hancock (“Lead Plaintiffs”), on behalf of themselves and the Class certified herein, and Defendants Viisage Technology, Inc. (now known as L-1 Identity Solutions, Inc.), Bernard C. Bailey, William K. Aulet, Denis K. Berube, Marcel Yon, Buddy G. Beck, Charles A. Levine, Thomas J. Reilly, Harriet Mouchly-Weiss, Paul T. Principato and Peter Nessen (collectively, “Defendants”) have entered into a Settlement of the claims asserted in the Action, the terms of which are set forth in a Stipulation of Settlement and annexed exhibits dated July 19, 2007 (collectively, the “Settlement Agreement”);

B. Lead Plaintiffs and Defendants have moved, pursuant to Rule 23 of the Federal Rules of Civil Procedure, for an order certifying the class defined herein, for settlement purposes only, preliminarily approving the Settlement in accordance with the terms and conditions of the Settlement Agreement and directing the issuance of notice to the class in accordance with the Settlement Agreement; and

C. The Court, having read and considered the Settlement Agreement, including the proposed Notice of Pendency and Proposed Settlement of Class Action, Application For Attorneys’

Fees and Expenses and Fairness Hearing (the “Notice”), the proposed Summary Notice of Pendency and Proposed Settlement of Class Action, Application For Attorneys’ Fees and Expenses and Fairness Hearing (the “Summary Notice”), the proposed Proof of Claim form, and the proposed Final Judgment and Order of Dismissal with Prejudice, Lead Plaintiffs’ Motion for Certification of a Settlement Class and for Preliminary Approval of Proposed Settlement, and having held a hearing on said motion on August 13, 2007, finds that substantial and sufficient grounds exist for entering this Preliminary Approval Order.

NOW, THEREFORE, IT IS HEREBY ORDERED:

1. This Preliminary Approval Order incorporates by reference the definitions in the Settlement Agreement, and all terms used herein shall have the same meanings as set forth in the Settlement Agreement.

2. The Court finds that a class consisting of all Persons who purchased Viisage’s publicly traded securities during the period from May 12, 2004 through March 2, 2005, inclusive (the “Class Period”), excluding: (i) the Defendants herein, the directors, officers and employees of Viisage, the members of each Individual Defendants’ immediate families, any entity in which any Defendant has a controlling interest, and the legal affiliates, representatives, heirs, controlling persons, successors and predecessors in interest or assigns of any such excluded party; and (ii) those Persons who submit valid and timely requests for exclusion from the Class pursuant to the instructions set forth in the Notice, should be certified for settlement purposes pursuant to Fed. R. Civ. Pro. 23 for the following reasons:

(a) As approximately 14 million shares of Viisage common stock were purchased by Class Members during the Class Period, the number of members of the Class are likely so numerous that joinder of all Class Members would be impracticable;

(b) There are questions of law and fact common to the members of the Class which predominate over questions which may affect individual Class Members, including: (i)

whether defendants violated the federal securities laws; (ii) whether defendants misrepresented material facts; (iii) whether defendants' statements omitted material facts necessary to make the statements made, in light of the circumstances under which they were made, not misleading; (iv) whether defendants knew, or recklessly disregarded that their statements were false and misleading; and (v) whether the members of the Class have sustained damages proximately caused by the alleged misrepresentations and omissions, and, if so, what is the appropriate measure of damages.

(c) Lead Plaintiffs' claims are typical of the claims of the members of the Class because Lead Plaintiffs and all of the Class Members sustained damages arising out of the same wrongful conduct at issue in this Action;

(d) Lead Plaintiffs have demonstrated that they have fairly and adequately protected the interests of Class Members and have retained counsel who are experienced and competent in class and securities litigation. Lead Plaintiffs have no interests that are contrary to or in conflict with the members of the Class Lead Plaintiffs seek to represent;

(e) A class action is superior to all other available methods for the fair and efficient adjudication of this controversy since: (i) joinder of all members is impracticable; (ii) the damages allegedly suffered by individual members of the Class may be relatively small, the expense and burden of individual litigation make it impossible for the members of the Class individually to redress the wrongs allegedly done to them, and no Class Member has commenced a separate individual action concerning the claims at issue here; (iii) it is desirable to resolve the Class' claims in this one forum; and (iv) there are no difficulties likely to be encountered in the management of this action as a class action.

3. The Court appoints Lead Counsel as Class Counsel pursuant to Fed. R. Civ. Pro. 23(g).

4. The Court preliminarily approves the Settlement of this Action on the terms and conditions set forth in the Settlement Agreement as being sufficiently fair, reasonable, and adequate

to warrant sending notice of the proposed Settlement to Class Members and further consideration of the Settlement at the Fairness Hearing described below.

5. A hearing (the “Fairness Hearing”) will be held on November 16, 2007 at 3:00 p.m. in Courtroom 13 of the United States District Court for the District of Massachusetts, John Joseph Moakley United States Courthouse, 1 Courthouse Way, Boston, Massachusetts 02210, to consider, among other things, whether the proposed Settlement of the Action on the terms and conditions provided in the Settlement Agreement is fair, reasonable, and adequate and should be approved by the Court; whether the proposed Plan of Allocation of the Net Settlement Fund is fair, reasonable, and adequate and should be approved by the Court; whether a Final Judgment substantially in the form of Exhibit B to the Settlement Agreement should be entered in this Action; and to consider Lead Counsel’s application for a Fee and Expense Award to Plaintiffs’ Counsel. The Court expressly reserves the right to adjourn the Fairness Hearing from time to time without any further written notice to Class Members.

6. The Court approves the form, substance, and requirements of the Notice and the Summary Notice (together, the “Notices”) and the Proof of Claim form annexed hereto, and finds that the procedures established for publication, mailing, and distribution of the Notices, as set forth in paragraphs 7 through 9 of this Preliminary Approval Order: (a) constitute the best notice practicable under the circumstances and are reasonably calculated to apprise Class Members of the proposed Settlement and their right to object thereto; (b) constitute reasonable, due, adequate, and sufficient notice of the Fairness Hearing and of the rights of persons and entities in the Class with respect thereto; and (c) meet all applicable requirements of the Federal Rules of Civil Procedure (including Rule 23(c)), the United States Constitution (including the Due Process Clause), the Private Securities Litigation Reform Act of 1995, the Rules of this Court, and any other applicable law.

7. The Court appoints A.B. Data, Ltd. (the “Claims Administrator”) to administer the notice procedure as well as the processing of claims under the supervision of Lead Counsel, as more fully set forth below:

(a) Not later than twenty-eight (28) days after the entry of this Preliminary Approval Order (the “Notice Date”), the Claims Administrator shall cause copies of the Notice and the Proof of Claim form, substantially in the forms annexed hereto as Exhibits 1 and 2, respectively, to be mailed by first-class mail, postage prepaid, to all potential Class Members that can be identified with reasonable effort; and

(b) Not later than ten (10) days after the Notice Date, the Claims Administrator shall cause the Summary Notice, substantially in the form annexed hereto as Exhibit 3, to be published once in the national edition of the *Wall Street Journal*.

8. No later than fourteen (14) days prior to the Fairness Hearing, Lead Counsel shall serve on Defendants’ counsel and file with the Court proof, by affidavit or declaration, of the mailings and publication required in paragraph 7 of this Preliminary Approval Order.

9. The Claims Administrator shall ask nominees that hold shares of Viisage that were purchased during the Class Period to mail copies of the Notice and the Proof of Claim form to the beneficial owners of those Viisage shares within ten (10) days after receipt thereof, or to send a list of the names and addresses of such beneficial owners to the Claims Administrator within ten (10) days of receipt thereof, in which event the Claims Administrator shall promptly mail copies of the Notice and Proof of Claim form to such beneficial owners.

10. Lead Counsel is authorized to pay any and all Notice Costs up to \$150,000.00 out of the Settlement Fund without further order of the Court. Any reimbursement of banks, brokerage houses, or other nominees for costs of mailing notices to beneficial owners of Viisgae shares who are potential Class Members shall be limited to out-of-pocket expenses that would not have been

incurred except for the sending of such notices. Any dispute concerning such reimbursement shall be resolved by this Court.

11. Any member of the Class who wishes to be excluded from the Class must submit a request for exclusion, in accordance with the instructions in the Notice, to the Claims Administrator, by first class mail no later than twenty-one (21) days before the Fairness Hearing. All persons who submit valid and timely requests for exclusion in the manner set forth in the Notice shall have no rights under the Settlement Agreement, shall not share in the distribution of the Net Settlement Fund, and shall not be bound by any of the terms and provisions of the Settlement Agreement, including the Releases defined in Section 6 thereof, or any proceedings, rulings, orders, and judgments in this Action.. The Claims Administrator shall provide copies of requests for exclusion to Lead Counsel and Defendants' Counsel, within three (3) days after such requests are received, and at least seventeen (17) days before the Fairness Hearing. Any Class Member who does not submit a valid and timely written request for exclusion from the Class in accordance with the instructions in the Notice is a Class Member and shall be bound by all of the terms and provisions of the Settlement Agreement, including the Releases defined in Section 6 thereof, and by all proceedings, rulings, orders, and judgments in this Action, whether favorable or unfavorable to the Class.

12. Any Class Member who wishes to participate in the distribution of the Net Settlement Fund must sign and return a completed Proof of Claim form in accordance with the instructions contained therein and in the Notice. All Proof of Claim forms must be submitted by first-class mail, postmarked no later than December 21, 2007 or such other time as may be set by the Court. If a Class Member chooses to return his, her, or its Proof of Claim form in a manner other than by first-class mail, then it must be actually received at the address on the Proof of Claim form no later than December 21, 2007 or such other date as may be set by the Court. Except as otherwise ordered by the Court, any Class Member who fails to return a timely and signed Proof of Claim form shall be barred from receiving a distribution of the Net Settlement Fund, but shall nevertheless be bound by

and subject to the Settlement Agreement, the Final Judgment, and all proceedings, rulings, orders, and judgments in this Action, including, without limitation, the release of the Released Claims and the dismissal with prejudice of this Action. Notwithstanding the foregoing, Lead Counsel may, in their sole discretion, accept for processing late claims so long as the distribution of the Net Settlement Fund to Authorized Claimants is not materially delayed.

13. Any Class Member may enter an appearance in the Action, individually or through counsel of his, her or its own choice, at his, her or its own expense. Any Class Member who chooses not to enter an appearance in the Action will be represented by Lead Counsel.

14. Pending final determination of whether the Settlement should be approved and the Court's entry of the Final Judgment, neither Lead Plaintiffs nor any other Class Member, either directly, representatively, or in any other capacity, shall institute, commence or prosecute any action or proceeding against any of the Released Persons, in any court or tribunal, that asserts any of the Released Claims.

15. Any Class Member who wishes to object to the fairness, reasonableness, or adequacy of the Settlement, to any terms of the proposed Settlement Agreement, to the Plan of Allocation, or to Lead Counsel's request for a Fee and Expense Award must file with the Court (c/o Clerk of the Court, United States District Court for the District of Massachusetts, John Joseph Moakley United States Courthouse, 1 Courthouse Way, Suite 2300, Boston, Massachusetts 02210), in the manner provided in the Notice and no later than twenty-one (21) days before the Fairness Hearing or as the Court may otherwise direct, notice of the Class Member's intention to object, the grounds for such objection, and all papers the Class Member intends to present to the Court in opposition to the Settlement Agreement, the Plan of Allocation, or Lead Counsel's request for a Fee and Expense Award, including any legal support the Class Member wishes to bring to the Court's attention and any evidence the Class Member wishes to introduce in support of his, her or its objection. In addition to filing such papers and materials with the Court, the Class Member must serve copies of

such papers and materials, in the manner provided in the Notice, upon each of the following Lead Counsel and Defendants' Counsel:

Jeffrey A. Klafter, Esq.  
Kurt B. Olsen, Esq.  
KLAFTER & OLSEN LLP  
1311 Mamaroneck Avenue, Suite 220  
White Plains, NY 10605

Vincent R. Cappucci, Esq.  
Stephen D. Oestreich, Esq.  
Robert N. Cappucci, Esq.  
ENTWISTLE & CAPPUCCI LLP  
280 Park Avenue  
26<sup>th</sup> Floor West  
New York, NY 33432

*Co-Lead Counsel for Lead Plaintiffs*

Mitchell H. Kaplan, Esq.  
CHOATE HALL & STEWART LLP  
Two International Place  
Boston, MA 02110

*Counsel for Defendants*

16. Any Class Member may file an objection of the nature described in paragraph 15 on his, her or its own or through an attorney hired at his, her or its own expense. Any Class Member who files and serves such an objection may, but is not required to, appear at the Fairness Hearing, either in person or through an attorney hired at the Class Member-'s own expense. If a Class Member hires an attorney to represent him, her or it at the Fairness Hearing, the attorney must file a notice of appearance with the Clerk of the Court and deliver a copy of that notice to Lead Counsel and Defendants' Counsel, at the addresses set forth in paragraph 15 of this Order, no later than twenty-one (21) days before the date of the Fairness Hearing.

17. Persons who intend to object to the Settlement and present evidence at the Fairness Hearing must include in their written objections the identity of any witnesses they may seek to call to testify and any exhibits they may seek to introduce into evidence at the Fairness Hearing. Any Party

has the right to object to any testimony or other evidence that a person objecting to the Settlement seeks to introduce.

18. Unless the Court otherwise directs, no member of the Class or other person shall be entitled to object to the Settlement, the Plan of Allocation, or Lead Counsel's application for a Fee and Expense Award, or otherwise be heard at the Fairness Hearing, except by filing and serving written objections as described above and following the objection procedure in the Notice. Any person who does not object in the manner prescribed above may be deemed to have waived such objection in this or any other action or proceeding and shall be bound by all of the terms and provisions of the Settlement Agreement, and by all proceedings, rulings, orders, and judgments in this Action.

19. No Person that is not a Lead Plaintiff, Class Member, Plaintiffs' Counsel, or the Claims Administrator shall have any right to any portion of the Settlement Fund unless otherwise ordered by the Court or otherwise provided in the Settlement Agreement.

20. All funds held by the Escrow Agent shall be deemed and considered to be in *custodia legis* of the Court, and shall remain subject to the jurisdiction of the Court, until such time as such funds shall be distributed pursuant to the Settlement Agreement, the Plan of Allocation, and/or further order(s) of the Court.

21. All papers in support of the Settlement, the Plan of Allocation, and/or Lead Counsel's application for a Fee and Expense Award shall be filed and served no later than fourteen (14) days prior to the Fairness Hearing.

22. Neither this Order, the Settlement Agreement (whether or not it is consummated and whether or not it is terminated), nor any of their provisions, nor any negotiations, proceedings or agreements relating to the Settlement Agreement and the Settlement, nor any matter arising in connection with such negotiations, proceedings or agreements, nor any act performed or document executed pursuant to or in furtherance of this Settlement Agreement: (i) is or may in any event be

deemed or construed to be or may be offered or received in evidence or used as or deemed to be an admission or evidence of a presumption, concession or admission by any Defendant of the truth of any fact alleged in the Complaint or the validity of any Released Claim or of any wrongdoing, liability, negligence or fault by any Defendant, or a presumption, concession or admission by any Lead Plaintiff as to the infirmity of any fact alleged in the Complaint, viability of any Released Claim, or lack of wrongdoing, liability, negligence or fault by any Defendant; (ii) is or may be deemed to be or may be referred to or used as an admission or evidence of a presumption, concession or admission with respect to any fault or omission, or lack thereof, of the Defendants, or for any other reason, in any civil, criminal, arbitration or administrative action or proceeding in any court, arbitration, administrative agency or other tribunal, other than in such proceedings as may be necessary to consummate, effectuate or enforce any of the provisions of the Settlement Agreement, the Settlement or the Final Judgment; (iii) is or may be used as an admission or evidence that Lead Plaintiffs' claims in the Action did not have merit; (iv) is or may be used or construed against any Party as an admission or concession that the consideration to be given hereunder represents the amount that could be or would have been recovered by Lead Plaintiffs, on behalf of the Class, after trial; (v) is or may be used or construed or received in evidence as an admission, concession or presumption by Defendants that any damages were recoverable under the Complaint or by Lead Plaintiffs that the damages recoverable under the Complaint would not have exceeded the Settlement Fund. Defendants may file the Settlement Agreement in any action that may be brought against them in order to support a defense or counterclaim based on principles of *res judicata*, collateral estoppel, release, good-faith settlement, judgment bar or reduction, or any theory of claim preclusion or issue preclusion or similar defense or counterclaim. Any Party may file the Settlement Agreement in any action that may be brought to enforce the terms of the Settlement Agreement.

23. At or after the Fairness Hearing, the Court shall determine whether the Plan of Allocation and Lead Counsel's application for a Fee and Expense Award shall be approved. Neither

Defendants nor Defendants' Counsel shall have any responsibility for, or any liability whatsoever with respect to, any Plan of Allocation of the Net Settlement Fund or any application for a Fee and Expense Award. Such matters will be considered separately from the fairness, reasonableness, and adequacy of the Settlement. The Court may approve the Settlement with such modifications as may be agreed to, in writing, by the Parties, if appropriate, without further notice to the Class.

24. This Court shall have exclusive jurisdiction over this Action, the implementation, administration and enforcement of the Settlement, the determination of all disputed questions of law and fact with respect to the validity of any claim or right of any person to participate in the distribution of the Net Settlement Fund, and any other matters arising out of or connected with the Settlement.

25. This Court may alter any of the deadlines in this Order for good cause shown.

IT IS SO ORDERED.

Dated: August 17, 2007

/s/ Mark L. Wolf  
HONORABLE MARK L. WOLF  
UNITED STATES DISTRICT JUDGE

# **EXHIBIT C**

You are here: → [Homepage](#) → [News/Events](#) → [News Releases](#)

## Viisage News And Media Releases

→ [Click here for current News Releases](#)

### Viisage Reports Fourth Quarter 2004 Results

81 percent annual revenue increase over 2003, with improved cash generation Company provides outlook for 2005

BILLERICA, Mass., Mar 2, 2005 (BUSINESS WIRE) -- Viisage (NASDAQ: VISG), a leading provider of advanced technology identity solutions, today reported final results for its fourth quarter and year ended December 31, 2004. For the fourth quarter, revenues were \$19.0 million, an 84 percent increase over \$10.3 million in the same period last year. The net loss for the fourth quarter of 2004 was \$5.2 million, or \$0.11 per fully diluted share, which includes the impact of the previously disclosed \$2 million impairment charge of contract assets related to the terminated State of Georgia drivers' license contract, and a \$900,000 non-cash deferred tax expense. In the 2003 fourth quarter, the Company reported a net loss of \$1.4 million or \$0.06 per fully diluted share. The 2004 fourth quarter results include the contribution from the acquisition of Imaging Automation, Inc. (iA), which was completed on October 5, 2004.

For the full year 2004, revenues were \$67.5 million, an 81 percent increase over revenues of \$37.4 million in 2003. The Company's net loss for 2004 was \$7.0 million, or \$0.18 per basic and diluted share, compared to a net loss of \$17.7 million, or \$0.82 per fully diluted share, in the prior year, which includes the impact of the one-time charge of \$12.1 million or \$0.56 per share that the Company recorded in connection with a change in accounting principle. On December 30, 2003, Viisage adopted new accounting rule EITF 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables," which pertains to revenue recognition for certain long-term contracts, such as Viisage's state drivers' licenses contracts, retroactive to January 1, 2003.

On February 7, 2005, Viisage announced preliminary results for the fourth quarter of 2004, indicating that while the Company achieved its revenue guidance, its net income and EBITDA fell short of expectations reflecting a number of primarily non-recurring factors.

"We are very pleased with our top line growth over the past year, as well as our substantial progress in increasing the cash generation capabilities of our business, at a time when most companies in our space are not producing cash," said Bernard Bailey, president and chief executive officer of Viisage. "This past year represented a significant transformation for Viisage. Completing three major acquisitions, strengthening our balance sheet and expanding our customer base have better positioned us to compete in the burgeoning identity solutions marketplace. We are convinced that our marketplace offers exciting opportunities for Viisage. As a company, we are committed to enhancing our leadership position by continuing to invest in our business going forward."

Highlights for the Fourth Quarter of 2004 include:

- Acquired privately-held Imaging Automation, the industry and market leader in automated identity document authentication technologies with more than 2,300 installations in 20 countries around the world;
- Selected to implement face recognition in Pakistan's national identity and passport programs;
- Won a series of contracts valued at \$10.9 million in total, for a new drivers' license contract in Wisconsin, a drivers' license contract extension in Maryland, and expansion of face recognition solutions into existing drivers' license contracts;
- Awarded a contract valued at \$1.1 million by the State of

Florida for automated document authentication technology as part of its drivers' license program;

- Received a contract valued at \$534,000 from the Ohio Department of Rehabilitation and Correction for a criminal identification system.

Following the end of the quarter, Viisage announced the following developments:

- Winning the West Virginia drivers' license contract, including face recognition and secure credentialing features;
- Implementation by The Netherlands of Viisage's identity solutions for its border management program;
- Extension of Department of Defense contract for face recognition solutions;
- Implementation by Ohio of identity theft verification programs.

Financial Highlights for the Fourth Quarter of 2004:

- Year-over-year revenue growth of 84%
- Gross margin of 28.6%, up from 27.3% in the prior year period
- EBITDA generation of \$974,000 during the quarter, up from \$362,000 in the same period in 2003
- At the end of the quarter, the Company had cash of \$11.3 million, up from \$6.7 million a year ago; the fourth quarter 2004 total includes \$2.8 million generated from operations
- The Company improved its balance sheet by paying off \$19.2 million in debt, specifically \$10.3 million in related party notes and \$8.9 million in project financing, reducing interest payments by approximately \$1.4 million on an annualized basis.
- The Company secured a line of credit from Citizens Bank for up to \$25 million.
- The Company elected to treat its acquisition of Trans Digital Technologies (TDT) as an asset transaction for tax purposes, which may generate approximately \$8.5 million in future tax benefits. The election created a deferred tax liability and related non-cash tax expense of \$900,000.
- Backlog at \$139 million, essentially flat with prior quarter of \$140 million.

Total operating expenses for the fourth quarter of 2004 were \$9.1 million, an increase from the \$4.0 million reported in the fourth quarter of 2003. The increases primarily reflect the Company's growth in size, following three acquisitions in 2004, as well as costs related to the Sarbanes-Oxley 404 compliance project, amounting to some \$550,000; legal costs, acquisition integration and severance charges, altogether totaling in excess of \$500,000, and the \$2 million impairment charge of contract assets related to the Georgia drivers' license contract. Sales and marketing expenses were \$2.4 million, research and development totaled \$1.6 million and general and administrative expenses were \$3.1 million. Total operating expenses in the same quarter in 2003 included \$1.5 million in sales and marketing costs, \$823,000 in research and development and \$1.7 million for general and administrative costs.

#### Financial Outlook for 2005

On an annual basis, Viisage expects to increase total revenues by approximately 8-19 percent over 2004, resulting in revenues in a range of \$73-80 million. For the first quarter of 2005, the Company is anticipating revenues between \$15-17 million, reflecting transitions on several large contracts. The Company is not sharing specific EBITDA targets, although it

anticipates remaining cash flow positive and continuing to increase its cash generation in 2005, compared to 2004. The Company also expects to reach profitability during 2005, excluding the impact of stock option expensing which will commence as of July 1, 2005.

#### Sarbanes-Oxley Compliance

In connection with the preparation of the Company's consolidated financial statements for the year ended December 31, 2004, the Company determined that it had an internal control deficiency that constitutes a 'material weakness' as defined by the Public Company Accounting Oversight Board's Accounting Standard No. 2. The Company has concluded that it had insufficient personnel resources and technical accounting expertise within the accounting function to resolve non-routine or complex accounting matters. As a result, management will be unable to conclude that the Company's internal controls over financial reporting are effective as of December 31, 2004. Therefore, BDO Seldman LLP, the Company's external accounting firm, will issue an adverse opinion with respect to the effectiveness of the Company's internal controls over financial reporting. In addition, as part of the Sarbanes-Oxley Section 404 compliance review, the Company is in the process of reviewing all of its other key internal control processes as well. While the evaluation is ongoing, management believes that it will likely conclude that the Company had significant deficiencies, which could constitute a material weakness, in the control processes around information technology systems as well. The Company is in the process of remediating the material weakness and significant deficiencies, and has devoted substantial resources to assess and take concrete steps to strengthen these internal controls. Management believes that the indicated control deficiencies do not affect the Company's financial strength or business prospects.

#### EBITDA

Viisage reports EBITDA as a financial performance measure and as a forecast of future performance. The Company calculates EBITDA by adding back to net earnings interest, taxes, depreciation and amortization. EBITDA is provided to investors as an additional performance gauge to results provided in accordance with generally accepted accounting principles (known as "GAAP"). Viisage's EBITDA should not be considered in isolation or as a substitute for comparable measures calculated and presented in accordance with GAAP. During 2004, Viisage completed the acquisitions of ZN Vision Technologies, Trans Digital Technologies and Imaging Automation. While these acquisitions had a positive impact on Viisage's EBITDA for 2004, they also resulted in Viisage incurring significant non-cash charges for amortization of intangible assets that adversely affect Viisage's net income (loss) in 2004. Viisage believes that using EBITDA as a performance measure, together with operating income (loss) and net income (loss), will help investors better understand Viisage's underlying financial performance and ability to generate cash flow from operations. A reconciliation of GAAP to EBITDA earnings is included in the following tables:

	For the Quarter Ended	
	Dec. 31, 2004	Dec. 31, 2003
Loss before cumulative effect of change in accounting principle	\$ (5,246)	\$ (1,399)
Add:		
Depreciation and Amortization	4,945	1,518
Interest Expense, net	391	243
Taxes	884	
EBITDA	\$ 974	\$ 362

#### Conference Call Information

The Company will host a conference call with the investment community to discuss its results for that period, and share its outlook for 2005, beginning at 8:00 a.m. ET on Thursday, March 3, 2005. The dial-in number for the call is 888-396-2386, confirmation code 95679200. Internationally, please dial 617-847-8712, using the same confirmation code. The call also will be available via live audio Webcast under the Conference Calls page of the Investors section of the Company's Web site ([www.viisage.com](http://www.viisage.com)). To access the Webcast, please go to the Company's Web site at least 10 minutes prior to the start of the call and follow the directions. A replay of the Webcast will be available at Viisage's Web site beginning an hour

after completion of the call.

In addition, immediately following this call, Viisage will host a financial details conference call with the investment community, starting at 9:00 a.m. ET. To access this call, please dial 888-396-2384, using confirmation code 66947152. Internationally, please dial 617-847-8711, using the same confirmation code. This call will also be available via live audio Webcast at the Company's Web site ([www.viisage.com](http://www.viisage.com)). A replay of this Webcast will also be available at the Company's Web site beginning one hour after completion of the call.

#### About Viisage

Viisage (NASDAQ: VISG) delivers advanced technology identity solutions for governments, law enforcement agencies and businesses concerned with enhancing security, reducing identity theft, and protecting personal privacy. Viisage creates solutions using secure credentials and face recognition technologies that quickly, reliably, and accurately identify individuals. With more than 3,000 installations worldwide, Viisage's identity solutions stand out as a result of the Company's industry-leading technology and unique understanding of customer needs.

This news release contains forward-looking statements that involve risks and uncertainties. Forward-looking statements in this document and those made from time to time by the Company through its senior management are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements concerning future plans or results are necessarily only estimates and actual results could differ materially from expectations. Certain factors that could cause or contribute to such differences include, among other things, the size and timing of contract awards, performance on contracts, availability and cost of key components, unanticipated results from audits of the financial results of the Company and acquired companies, changing interpretations of generally accepted accounting principles, outcomes of government reviews, potential fluctuations in quarterly results, dependence on large contracts and a limited number of customers, lengthy sales and implementation cycles, market acceptance of new or enhanced products and services, proprietary technology and changing competitive conditions, system performance, management of growth, dependence on key personnel, ability to obtain project financing, general economic and political conditions and other factors affecting spending by customers, the unpredictable nature of working with government agencies and other risks, uncertainties and factors including those described from time to time in Viisage's filings with the Securities and Exchange Commission, including without limitation, Viisage's Form 10-K for the year ended December 31, 2003 and its quarterly reports on Form 10-Q. Viisage undertakes no obligation to update any forward-looking statements.

**VIISAGE TECHNOLOGY, INC.**  
**Consolidated Balance Sheets**  
(in thousands)  
(Unaudited)

	December 31, 2004	December 31, 2003
<b>Assets</b>		
<b>Current assets:</b>		
Cash & cash equivalents	\$ 11,309	\$ 6,666
Accounts receivable	17,075	7,057
Inventories and other costs and estimated earnings in excess of billings	3,382	4,050
Other current assets	1,213	439
<b>Total current assets</b>	<b>32,979</b>	<b>18,212</b>
Property and equipment, net	19,917	25,088
Goodwill	93,928	
Intangible assets, Net	26,046	2,693
Restricted cash		6,311
Other assets	3,173	2,176

	176,043	\$	54,480
	-----		-----
<b>Liabilities &amp; Shareholders Equity</b>			
<b>Current liabilities:</b>			
Accounts payable & accrued expenses	\$	15,279	\$ 6,851
Current portion of project financing		281	3,734
Current portion of related party notes		-	1,740
Other current liabilities		2,186	
	-----		-----
Total current liabilities		17,746	12,325
Project financing		149	5,813
Related party notes		-	2,334
Other liabilities		2,829	
	-----		-----
Total Liabilities		20,724	20,472
	-----		-----
<b>Commitments and contingencies</b>			
<b>Shareholders' Equity</b>			
Common stock		49	24
Additional paid in capital		204,658	76,061
Accumulated deficit		(49,073)	(42,077)
Cumulative foreign currency translation adjustment		(315)	
	-----		-----
Shareholders' equity		155,319	34,008
	-----		-----
	\$	176,043	\$ 54,480
	-----		-----

VIISAGE TECHNOLOGY, INC.  
Consolidated Statements of Operation  
(in thousands, except per share amounts)  
(Unaudited)

	Three Months Ended		Twelve Months Ended	
	Dec. 31, 2004	Dec. 31, 2003	Dec. 31, 2004	Dec. 31, 2003
	-----	-----	-----	-----
Revenues	\$ 19,024	\$ 10,318	\$ 67,466	\$ 37,371
Cost of Revenues	13,588	7,500	48,201	27,844
	-----	-----	-----	-----
Gross Margin	5,436	2,818	19,265	9,527
	-----	-----	-----	-----
<b>Operating Expenses:</b>				
Sales & marketing	2,369	1,496	7,028	5,282
Research & development	1,634	823	4,431	3,650
General & administrative	3,121	1,655	9,838	5,110
Impairment of long-lived assets	2,000		2,000	
	-----	-----	-----	-----
Total operating expenses	9,124	3,974	23,297	14,042
	-----	-----	-----	-----
Operating loss	(3,688)	(1,156)	(4,032)	(4,515)
	-----	-----	-----	-----
Interest income	7		99	99
Interest expense	(398)	(243)	(1,870)	(1,068)
Other income (expense)	(283)		(235)	18
	-----	-----	-----	-----

Loss before income taxes and cumulative effect of change in accounting principal	(4,362)	(1,399)	(6,038)	(5,466)
Provision for income taxes	884		959	63
Loss before cumulative effect of change in accounting principal	(5,246)	(1,399)	(6,997)	(5,529)
Cumulative effect of change in accounting principal				(12,131)
Net loss	\$ (5,246)	\$ (1,399)	\$ (6,997)	\$ (17,660)
Basic and diluted net loss per share before cumulative effect of change in accounting principal				
	\$ (0.11)	\$ (0.06)	\$ (0.18)	\$ (0.26)
Cumulative effect of change in accounting principle	\$	\$	\$	\$ (0.56)
Basic and diluted net loss per share	\$ (0.11)	\$ (0.06)	\$ (0.18)	\$ (0.82)
Basic and diluted weighted average common shares	47,210	23,891	39,160	21,445

SOURCE: Viisage Inc.

Viisage Inc.  
Bill Aulet, 978-932-2424  
aulet@viisage.com

"Safe Harbor" Statement under the Private Securities Litigation Reform Act of 1995: Statements in this press release regarding Viisage's business which are not historical facts are "forward-looking statements" that involve risks and uncertainties. For a discussion of such risks and uncertainties, which could cause actual results to differ from those contained in the forward-looking statements, see "Risk Factors" in the Company's Annual Report or Form 10-K for the most recently ended fiscal year.

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# **EXHIBIT D**



445 Park Avenue, New York, NY 10022 (212) 371-8300

Equity Research  
March 3, 2005

Jim Ricchiuti (212) 705-0381 jricchiuti@needhamco.com  
Mark Grzyski (212) 705-0407 mgrzyski@needhamco.com

### Vlitage Technology, Inc. (VISG/OTC)

C05 Rev. Guidance Below Street; Reducing C05, C06 Estimates; Maintain Hold

Price (3/3/2005): (Intraday 2:40pm)	\$4.40	Shares Outstanding (MM):	48.0
52-Week Range:	\$14.30-4.72	Market Cap. (MM)	\$210
Rating/12-Mo. Target:	Hold	Average Daily Volume (000):	865
Price/FTM Sales:	2.8x	Tangible BV Per Share:	\$0.75
Convertible Debt:	No	Total Debt/ Capitalization:	0%

	12/03	12/04A			12/05E			12/06E		
		Was	Is	Consensus	Was	Is	Consensus	Was	Is	Consensus
Revenue (MM)	\$37.4	\$66.4	\$67.5	\$66.5	\$62.0	\$76.0	\$83.0	\$103.8	\$95.8	\$104.5
Growth	20%	78%	80%	57%	23%	13%	25%	27%	26%	26%
Op. Margin	-12.40%	-7.9%	-5.98%		1.8%	-2.1%		9.1%	6.0%	
EPS: 1Q	(0.12)	(0.05)	(0.05)	(0.05)	(0.02)	(0.03)	0.00			
EPS: 2Q	(0.07)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	0.01			
EPS: 3Q	(0.02)	0.00	0.00	0.00	0.01	(0.01)	0.02			
EPS: 4Q	(0.06)	(0.13)	(0.11) A	(0.09)	0.02	0.02	0.02			
EPS: Year	(0.26)	(0.20)	(0.18)	(0.04)	\$ 0.01	(0.04)	0.06	\$ 0.20	\$ 0.12	0.19
Growth			N/A			N/A			N/A	217%
P/E Ratio			N/A			N/A			38.8	

Note: CY03 adjusted to reflect adoption of EITF 00-21 (Accounting for Revenue Arrangements with Multiple Deliverables).

#### Disclosures applicable to this security: B,D,G,J (disclosure explanation at the end of this report)

**Investment Summary.** VISG provided lower than expected guidance for CY05, following its disappointing 4Q performance. Although there may be further integration risk with its recent acquisitions, we continue to believe VISG has significant growth opportunities with a number of agencies and departments at the federal government level as well as overseas, although the timing around which it builds a sustainable, profitable business model is less certain, in our view. We maintain our Hold rating on the stock.

- VISG shares are down 19% intraday, primarily on disappointing CY05 guidance, as well as on investor concerns about the company's internal controls after it acknowledged deficiencies in this area that it currently actively addressing.
- 4Q results were in line with its preannouncement. Loss was \$0.11 per share (including \$2 million impairment charge related to terminated Georgia contract and \$0.9 million non-cash deferred tax expense). Revenues increased 84% year to year to \$19 million, benefiting from acquisitions. 4Q EBITDA totaled \$1.0 million.
- VISG sees revenues of \$73-80 million for the year and 1Q05 revenues of \$15-17 million. VISG did not provide any EBITDA guidance, although it said it expects to be profitable in CY05 (excluding stock option expensing).
- Backlog totaled \$139 million, down slightly from \$140 million at the end of 3Q04. Approximately \$50 million of the backlog will be recognized into revenue into CY05, including approximately \$11-12 million in 1Q05.
- We now expect a loss of \$0.04 for CY05 on revenues of \$76 million, compared with our prior \$0.01 per share profit. We are reducing our EPS estimate for CY06 to \$0.12 from \$0.20.

#### Investment Summary

VISG supplies advanced identity technology solutions to customers in the government and commercial markets. Through a series of acquisitions this year, ZN Vision Technologies, Trans Digital Technologies (TDT), and most recently Imaging Automation (IA), VISG has transformed itself into one of the leading participants in the ID security market, in our view. We believe that VISG is in a position to leverage its customer base in the secure identification market, which includes providing drivers' licenses to departments of motor vehicles that represent around 30% of the U.S. driver's license market, to higher margin ID solution applications.



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With last year's acquisitions of TDT and IA, we believe VISG has positioned itself to win a growing share of the rapidly expanding market for advanced technology ID solutions in both the government and commercial sectors over the next several years. However, the disappointing 4Q and lingering integration issues have added a layer of uncertainty to management's ability to execute its growth strategy along the time-line that investors have been expecting. As a result, we are reducing our earnings expectations to reflect this uncertainty. We continue to rate the stock a Hold.

#### **4Q In Line With Preannouncement; Guidance For CY05 Below Street Expectations**

VISG after the market close yesterday reported a 4Q loss of \$0.11 per share (including \$2 million impairment charge related to terminated Georgia contract and \$0.9 million non-cash deferred tax expense). Revenues increased 84% year to year to \$19 million, benefiting from acquisitions. 4Q EBITDA totaled \$1.0 million, down from \$3.4 million for 3Q04 but up from \$0.4 million for the year-ago period. The results were in line with the preannouncement announced on Feb. 8.

The stock has sold off in the wake of earnings release and conference this morning primarily we believe on disappointing CY05 guidance, as well as on investor concerns about the company's internal controls after it acknowledged deficiencies in this area that it currently actively addressing. VISG's outside auditors (BDO Seidman LLP) will issue an adverse opinion with respect to the effectiveness of the company's internal controls over financial reporting. VISG acknowledged that it had an "internal control deficiency" that constitutes a "material weakness" as defined by Public Company Accounting Oversight Board Accounting Standard No.2. The company said it addressing these issues as part of the Sarbanes Oxley Section 404 compliance review and that the control deficiencies do not affect its financial strength or prospects. VISG is adding senior accounting personnel and support staff as well as beefing up its IT area as part of the overall effort to address the deficiencies identified.

Backlog at the end of 4Q04 totaled \$139 million, down slightly from \$140 million at the end of September. During the quarter, VISG won approximately \$10.9 million of state drivers' license contracts, either new or extensions, in Wisconsin and Maryland. At the same time, the company will lose approximately \$7 million of revenues in CY05, albeit low margin revenue, associated with the loss of drivers' license business in Ohio and Florida.

In addition, following the quarter-end, VISG added an additional contract to provide facial recognition technology, which could add \$1 million to revenue over the next two quarters, as well as won the West Virginia drivers' license contract (which includes face recognition and secure credentialing features). The company also secured wins in The Netherlands for a border management program and in Ohio for an identity theft verification program, as well as won following business at the Dept. of Defense for facial recognition solutions.

#### **Outlook**

VISG sees revenues of \$73-80 million for the year and 1Q05 revenues of \$15-17 million. VISG did not provide any EBITDA guidance, although it said it expects to be profitable in CY05 (excluding stock option expensing). Approximately \$50 million of the backlog will be recognized into revenue into CY05, including approximately \$11-12 million in 1Q05.

Management expects gross margins to expand approximately 400-600 basis points in CY05, reflecting a mix shift toward higher margin product sales, increased facial recognition revenues and a higher percentage of Imaging Automation revenue. The company sees operating expense of between \$24.5-27.5 million in CY05, up from \$21.2 million in CY04 (excluding the \$2.0 million charge in the 4Q). Management also expects to have positive EBITDA in each quarter of CY05.

For 1Q05, we now expect a loss of \$0.03 versus our prior \$0.02 loss estimate. We estimate the loss at \$0.04 on revenues of \$76 million, compared with our prior \$0.01 per share profit. We are reducing our EPS estimate for CY06 to \$0.12 from \$0.20.



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**Balance Sheet**

Cash and cash equivalents as of December 31, totaled \$11 million, down from \$34.4 million at the end of September. During the quarter, the company paid down approximately \$19 million of debt and is now essentially debt free. Cash generated from operations during the quarter totaled \$2.8 million.

*Viisage Technology supplies advanced technology identity solutions for government, law enforcement agencies and businesses concerned with enhancing security, reducing identity theft, providing access control and protecting personal privacy.*

**ANALYST CERTIFICATION**

I, Jim Ricciuti, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company (ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

I, Mark Grzyski, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject company (ies) and its (their) securities. I also certify that I have not been, am not, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.

**VIISAGE TECHNOLOGY INC.**

Currency = USD

Date	Closing Price	Recommendation Change	Date	Closing Price	Price Target
08-Feb-2005	5.91	HOLD	30-Nov-2004	8.07	8.50
30-Nov-2004	8.07	BUY	06-Oct-2004	8.48	8.00
23-Jul-2004	6.62	BUY	23-Jul-2004	6.62	9.00
05-May-2004	9.99	BUY	05-May-2004	9.99	11.50
30-Mar-2004	7.90	BUY	19-Apr-2004	12.28	10.00
			02-Apr-2004	9.36	10.50
			30-Mar-2004	7.90	10.00



Village Technology, Inc.

Condensed Quarterly & Annual Income Statements (in thousands)

3/2/2006

	Actual				Actual				Estimate			
	2003				2004				2005			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Year	2003				2004				2005			
Year	2003				2004				2005			
Net Sales	\$31,300	\$31,003	\$29,003	\$29,003	\$31,004	\$29,004	\$29,004	\$29,004	\$31,005	\$29,005	\$29,005	\$29,005
Cost of Goods Sold	25,883	25,883	25,883	25,883	25,883	25,883	25,883	25,883	25,883	25,883	25,883	25,883
Gross Profit	\$5,417	\$5,120	\$3,120	\$3,120	\$5,121	\$3,121	\$3,121	\$3,121	\$5,121	\$3,121	\$3,121	\$3,121
Selling Expense	5,368	5,368	5,368	5,368	5,368	5,368	5,368	5,368	5,368	5,368	5,368	5,368
General & Administrative	5,068	5,068	5,068	5,068	5,068	5,068	5,068	5,068	5,068	5,068	5,068	5,068
Research & Development	4,457	4,457	4,457	4,457	4,457	4,457	4,457	4,457	4,457	4,457	4,457	4,457
Restructuring/Other	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42	\$42
Operating Income	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)	(\$10,320)
Interest/Other Income (Exp.) - Net	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)	(\$70)
Pretax Income	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)
Income Taxes	0	0	0	0	0	0	0	0	0	0	0	0
Net Income	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)	(\$11,200)
EPS Continuing Operations	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)	\$ (0.50)
Fully Diluted Avg. Shs. Out	20,045	20,045	20,045	20,045	20,045	20,045	20,045	20,045	20,045	20,045	20,045	20,045

Ratio Analysis	Actual				Actual				Estimate			
	2003				2004				2005			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Year	2003				2004				2005			
Year	2003				2004				2005			
Gross Profit	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%	17.3%
Selling Expense/Sales	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%	17.2%
G&A/Sales	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%	16.2%
R & D / Sales	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%	14.2%
Operating Margin	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%	-33.0%
Pretax Margin	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%
Effective Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net Margin	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%	-35.6%

Source: Company financials, Needham & Company estimates.



**Village Technology, Inc.**  
**Comparative Balance Sheet**  
**(\$ in thousands)**

445 Park Avenue, New York, NY 10022 (212) 371-8300

	12/31/01	3/31/02	6/30/02	9/30/02	12/31/02	3/31/03	6/30/03	9/30/03	12/31/03	3/31/04	6/30/04	9/30/04	12/31/04
<b>Assets</b>													
<b>Current Assets</b>													
Cash & Cash Equivalents	\$20,662	\$14,904	\$11,958	\$6,716	\$2,212	\$1,783	\$1,173	\$11,423	\$6,666	\$9,282	\$9,503	\$34,363	\$11,309
Restricted Cash				0	1,241	1,098							
Accounts Receivable	4,821	6,361	6,410	6,770	7,360	5,434	6,805	8,026	7,057	9,343	10,570	18,002	17,075
Costs & Est. Earn. In Excess of Billings	23,331	25,912	26,047	25,879	23,372	24,128	24,406	24,627	4,050	4,647	3,775	3,293	3,382
Other Assets	302	508	1,076	1,010	339	680	591	1,136	439	1,162	1,047	1,176	1,213
<b>Total Current Assets</b>	\$49,116	\$47,585	\$45,491	\$40,375	\$34,524	\$33,123	\$32,975	\$45,212	\$18,212	\$24,434	\$24,895	\$56,834	\$32,979
<b>Property &amp; Equipment, Net</b>	\$18,178	\$16,990	\$16,120	\$14,723	\$18,829	\$14,809	\$15,454	\$15,036	\$25,088	\$24,810	\$22,938	\$22,308	\$19,917
<b>Goodwill &amp; Intangible Assets, Net</b>		3,559			3,147	3,145	3,018	2,892	2,893	82,132	82,716	83,566	119,974
<b>Restricted Cash</b>					6,163	6,015	5,120	5,120	6,311	3,120	3,120	3,000	0
<b>Other Assets</b>	369	344	4,073	4,082	728	792	1,887	2,082	2,126	796	1,984	1,427	3,173
<b>Total Assets</b>	\$67,863	\$68,478	\$65,684	\$59,180	\$61,189	\$57,864	\$58,454	\$70,342	\$54,480	\$135,292	\$135,653	\$167,135	\$176,043
<b>Liab. &amp; Stockholders' Equity</b>													
<b>Current Liabilities</b>													
Accounts Payable & Accrueds	\$6,724	\$7,396	\$7,920	\$5,029	\$7,017	\$6,709	\$7,371	\$7,777	\$6,851	\$11,051	\$10,921	\$14,447	\$15,279
Related Party Payable												1,365	
Current Portion of Project Financing					\$5,263			\$6,088	\$5,474	4,175	3,989		281
Portion of Project Financing										6,785	10,885	10,300	0
Current Portion of related party notes									0		2,600		
Obligations under Capital Leases													2,186
Other	4,277	4,261	4,342	4,424		5,204	6,174						
<b>Total Current Liabilities</b>	\$10,368	\$9,272	\$8,156	\$7,020	\$9,845	\$8,607	\$8,607	\$8,936	\$8,147	\$13,470	\$7,932	\$4,968	\$149
Obligations under Capital Leases/LT Oblig.													
<b>Project Financing</b>													
Other Liabilities												414	2,829
<b>Stockholders' Equity</b>	\$46,294	\$47,549	\$45,266	\$42,707	\$39,084	\$37,364	\$37,364	\$47,541	\$34,008	\$92,196	\$92,884	\$131,655	\$155,319
<b>Total Liabilities &amp; Equity</b>	\$67,863	\$68,478	\$65,684	\$59,180	\$61,189	\$57,864	\$58,454	\$70,342	\$54,480	\$135,292	\$135,653	\$167,135	\$176,043
<b>Ratios</b>													
Cash & Mkt. Sec Per Share	\$1.16	\$0.75	\$0.60	\$0.33	\$0.11	\$0.09	\$0.06	\$0.53	\$0.28	\$0.29	\$0.27	\$0.80	\$0.24
Book Value Per Share	\$2.60	\$2.40	\$2.27	\$2.12	\$1.83	\$1.84	\$1.84	\$2.21	\$1.42	\$2.91	\$2.59	\$3.07	\$3.28
Working Capital (in millions)	\$38,115	\$35,928	\$33,229	\$30,922	\$22,244	\$21,210	\$19,430	\$31,347	\$5,887	\$2,443	(\$3,500)	\$26,734	\$15,233
Current Ratio	4.46	4.08	3.71	4.27	2.81	2.78	2.43	3.26	1.48	1.11	0.88	1.89	1.86
Days Sales Outstanding	62.7	89.5	63.8	75.1	75.7	59.6	69.6	71.5	61.6	68.6	58.4	81.4	80.8
Inventory Turns	4.6	3.6	4.7	3.9	3.5	4.1	4.5	3.9	4.0	4.3	4.5	4.0	3.1



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	% of companies under coverage with this rating	% for which investment banking services have been provided for in the past 12 months
Strong Buy	10%	45%
Buy	53	26
Hold	31	10
Under Perform	2	0
Rating Suspended	0	0
Restricted	2	63
Under Review	<1	0

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# **EXHIBIT E**

**Market Reactions to the Disclosure of Internal Control Weaknesses  
and to the Characteristics of those Weaknesses  
under Section 302 of the Sarbanes Oxley Act of 2002**

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All data used in this study are publicly available.

**Market Reactions to the Disclosure of Internal Control Weaknesses  
and to the Characteristics of those Weaknesses  
under Section 302 of the Sarbanes Oxley Act of 2002**

**Abstract**

Under Section 302 of the Sarbanes Oxley Act, officers must evaluate the effectiveness of internal controls quarterly. We examine the stock price reaction to management's disclosure of internal control weaknesses and to their characteristics, controlling for other material announcements are made during the event window. We find evidence suggesting that some characteristics of the internal control weaknesses - their severity, management's conclusion regarding the effectiveness of the controls, their auditability, and how vague the disclosures are - are informative. In subsequent analyses, we find that the relation between returns and auditability holds for significant deficiencies and control deficiencies as well as for material weaknesses. However, the relation between returns and how vague the disclosure is is driven by the observations with material weaknesses. This suggests that the information content of internal control weakness disclosures depends on the severity of the internal control weakness.

**Keywords:** Internal control weakness, material weakness, market reactions, event study, Sarbanes Oxley Act of 2002

**JEL codes:** G14, M41, and M42

## 1. Introduction

Two provisions of the Sarbanes Oxley Act of 2002 require new disclosures about the effectiveness of firms' internal control systems. The first, §302 of the Act, requires that chief executive officers and chief financial officers evaluate the design and effectiveness of internal controls on a quarterly basis, and report an overall conclusion about the effectiveness of internal controls. In this paper, we focus on the market's reaction to disclosures of internal control weaknesses made under §302. The second, §404 of the Act, requires an annual audit of management's evaluation of internal controls and of the effectiveness of internal controls.<sup>1</sup>

Policymakers intended these reports on internal control systems to provide financial statement users with an early warning about potential future financial statement problems that could result from weak internal controls (PCAOB, 2004). In a speech to the annual Midwestern Financial Reporting Symposium, the then-Chief Accountant of the U.S. Securities and Exchange Commission (SEC) presented his view of the regulations on internal control reporting. He stated:

“given the massive financial scandals, decline in market capitalization and resulting loss of investor confidence in our markets, I believe that, of all the recent reforms, the internal control requirements have the greatest potential to improve the reliability of financial reporting. Our capital markets run on faith and trust that the vast majority of companies present reliable and complete financial data for investment and policy decision-making. Representing to the world that a company has in place an appropriate control system, free of material weaknesses, that gathers, consolidates, and presents financial information strengthens public confidence in our markets and encourages investment in our nation's industries” (Nicolaisen, 2004).

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<sup>1</sup> §302 became effective on August 29, 2002 for all filers and §404 became effective for accelerated filers for fiscal years ending after November 15, 2004. Accelerated filers are companies with worldwide market values of at least \$75 million, who have filed at least one annual report under Section 13(a) or 15(d) of the Exchange Act, and who are not eligible to file quarterly or annual reports on Forms 10-QSB or 10-KSB. Note that on September 21, 2005, the SEC postponed the requirement to comply with §404 for non-accelerated filers until fiscal years ending after July 15, 2007.

Three types of internal control weaknesses are defined by the auditing standards. Listed in increasing order of severity, these are control deficiencies, significant deficiencies, and material weaknesses.<sup>2</sup> Material weaknesses are especially severe because they indicate control problems which are most likely to result in a material misstatement of the financial statements, and material misstatements that auditors fail to detect result in large stock price declines when they are corrected later (Palmrose, Richardson, & Scholz, 2004). Prior to the passage of the Act, companies were required to report internal control weaknesses only if they changed auditor, but under §302 of the Act, officers must certify quarterly that they have disclosed all significant deficiencies to the audit committee and to the auditor, and have disclosed all material weaknesses to the auditor. Additionally, they must disclose in the quarterly filings substantial changes to the internal controls during the period, including any corrections of significant deficiencies and material weaknesses. This requirement to certify the internal controls applies to all filers, even those not required to comply with §404 of the Act (i.e., to provide an audit of internal controls) until 2007.

The costs of complying with the new internal control disclosure requirements are great. For example, a recent survey estimates that, excluding external audit costs, firms spent an average of \$5.9 million to comply with the internal control reporting requirements in their first year of §404 compliance (Charles River Associates, 2005). This figure is much greater than the \$91,000 per filer that the SEC predicted would be necessary (SEC, 2003). Given the substantial costs involved in compliance with these requirements, it is important to assess the benefits of the internal control disclosures. In this paper, we assess whether these disclosures are useful to an

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<sup>2</sup> We define these categories in Section 2.

important set of financial statement users – investors.<sup>3</sup> Specifically, we examine the stock price reaction to management’s disclosure of internal control weaknesses and to characteristics of those weaknesses as disclosed under §302 of the Act.

A significant stock price decline would suggest that the existence or characteristics of an internal control weakness disclosure cause investors to reevaluate their assessment of the quality of management’s oversight over the financial reporting process, leading to revisions in expectations about the firm’s future profitability or to revisions in perceptions of firm risk. Whether and how investors react to these disclosures is an open question. Auditors have suggested that investors will experience difficulty in understanding the implications of these disclosures (Orenstein, 2004) and regulators have argued that the disclosures should not necessarily motivate reactions by regulators or investors (Nicolaisen, 2004). However, if the disclosure of an internal control weakness provides new and useful information to market participants, we expect to observe a negative overall stock price reaction.

We also investigate whether specific characteristics of the weaknesses convey information to market participants. Authoritative parties share the view that characteristics of the weaknesses will convey information to market participants. In fact, professional analysts at Credit Suisse First Boston speculate that details provided in the disclosures will be key in determining how investors react to material weaknesses (Credit Suisse First Boston, 2005). Therefore, we investigate whether specific characteristics of the weaknesses convey information to market participants. Specifically, we examine whether price reactions to the disclosure of internal control weaknesses are more pronounced when management discloses material weaknesses than when they disclose less severe weaknesses. We also investigate whether

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<sup>3</sup> Other potential benefits include reduced financial reporting failures and reduced investor losses due to internal control reporting, but these are difficult to measure (Nicolaisen, 2004).

market reactions are associated with management's overall evaluation of the effectiveness of the internal control system, a measure of the auditor's ability to audit around the weakness, the amount of detail about the weakness provided in the disclosure, who discovered the weakness (management or the auditor), and a proxy for audit quality (i.e., whether the auditor is a Big 4 auditor).

To form our sample, we began with firms that *Compliance Week* identified as disclosing internal control weaknesses. We searched prior financial filings with the SEC and identified the *first* disclosure of each of these internal control weaknesses, and we include only this first disclosure in our sample. Internal control weaknesses are disclosed on many different forms, including Form 8K (along with other material events), Forms 10K and 10Q, amended versions of these forms, and proxy statements. To be sure that any observed market reaction is to the disclosure of the internal control weakness and not to other material news, we control for other material news in our analyses. Specifically, we control for the issuance of other forms (such as Forms 3, 4, 8K, 10K, and 10Q) and for the effect of earnings announcements made in the three days around the disclosure of the internal control weakness. Because we isolate the reaction to the disclosure of the internal control weakness from the reaction to other news, and because we provide evidence on the relation between returns and characteristics of internal control weaknesses, we provide regulators, auditors, management, and investors with important evidence on whether and how market participants use internal control weakness disclosures when evaluating firm securities.

Consistent with expectations, we find evidence that the market reaction varies with the severity of the internal control weakness. Specifically, when we consider only those 98 sample observations without other news (i.e., other filings and earnings announcements) in the three day

window around the disclosure of the internal control weakness, we find that size-adjusted returns on day 0 average -0.95 percent when material weaknesses are disclosed ( $p = 0.0737$ ), -0.75 percent when significant deficiencies are disclosed ( $p = 0.0884$ ), and are not different from zero when control deficiencies are disclosed. Furthermore, returns are significantly more negative when firms report material weaknesses than when they report control deficiencies ( $\beta = -1.396$  percent,  $p = 0.0503$ ) and when firms report significant deficiencies rather than control deficiencies ( $\beta = -1.201$  percent,  $p = 0.0938$ ).

Additionally, when we perform multiple regression analyses on our full sample of observations disclosing internal control weaknesses, we find that returns are significantly less negative if management concludes that internal controls are effective despite the presence of an internal control weakness and are weakly less negative if the firm engages a Big 4 auditor. Moreover, we find that returns are significantly more negative when internal control weaknesses are less auditable and when disclosures about these weaknesses are vague. Overall, these results reveal that some of the information contained in the internal control weakness disclosures is informative and is used by investors to revise their average expectations about firm value. In subsequent analyses, we find that the relation between returns and auditability holds for significant deficiencies and control deficiencies as well as for material weaknesses. This indicates that regardless of the assessed severity of these weaknesses, investors appear to be concerned about the presence of any weaknesses that may impact the financial statement auditor's ability to conduct a successful audit. However, the relation between returns and how vague the disclosure is is driven by the observations reporting material weaknesses. This suggests that the information content of internal control weakness disclosures depends on the severity of the internal control weakness. We contribute to the prior literature on internal control

weaknesses by demonstrating that the market's reaction to these disclosures is contingent on the *characteristics* of the weaknesses. One of these characteristics, management's evaluation of the effectiveness of the internal control system, is one of the assertions required to be audited under §404.

The remainder of the paper is organized as follows. In Section 2 we discuss internal control weakness disclosures under §302 and extant research on these disclosures. Section 3 presents our methodology including our sample selection procedures, variable definitions, expectations, and sample description. We present results of univariate and multiple regression tests in Section 4, and Section 5 concludes.

## **2. Internal control disclosures background**

### **2.1. Internal control types and reporting**

As mentioned previously, the three categories of internal control weaknesses are (in increasing levels of severity): control deficiencies, significant deficiencies, and material weaknesses.<sup>4</sup> The primary differences between a control deficiency and a significant deficiency are in the *probability* and *magnitude* of the financial statement misstatements which *may* result due to the existence of the weakness; significant deficiencies are more severe, result in a higher probability of misstatement, and any resulting misstatements would be of greater magnitude.

The primary difference between significant deficiencies and material weaknesses is in the

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<sup>4</sup> A control deficiency "exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis" (PCAOB, 2004, Appendix ¶8). A significant deficiency is "a control deficiency, or combination of control deficiencies, that adversely affects the company's ability to initiate, authorize, record, process, or report external financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the company's annual or interim financial statements that is more than inconsequential will not be prevented or detected" (PCAOB, 2004, Appendix ¶9). A material weakness is "a significant deficiency, or combination of significant deficiencies that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected" (PCAOB, 2004, Appendix ¶10).

*magnitude* of the financial statement misstatements which *may* result due to the existence of the weakness; material weaknesses are associated with possible *material* misstatements, while significant deficiencies are associated with possible misstatements that are more than inconsequential, but *less than* material. Additionally, if material weaknesses remain after a firm complies with §404, the auditor must issue an adverse opinion on internal controls (PCAOB, 2004).

Much discussion of the internal control weakness standards appeared in the business press prior to their enactment. Speculating on the likely effect of these standards, the then-Chief Accountant of the SEC stated that “not all material weaknesses are likely to be viewed as equally significant” (Nicolaisen, 2004). Consistent with this, Moody’s Investors Service announced that it would not necessarily revise ratings for all firms disclosing material weaknesses, stating “while a conclusion that internal controls are ineffective is certainly not good news, we believe that any reaction will need to take into consideration the nature of the material weaknesses because many of them will not rise to the level of serious concern from an analytical perspective” (Doss, 2004, p. 1). Clearly, ratings agencies expected to use these disclosures to inform the ratings process, and regulators expected market participants to use these disclosures to assess firms’ ability to generate future earnings and to price and trade firm securities accordingly.

## 2.2. Prior research on internal control weaknesses disclosed under §302

Recent studies investigate the characteristics of firms disclosing internal control weaknesses under §302 of the Act. Ge and McVay (2005) find that firms disclosing material weaknesses are more complex, smaller, and less profitable than are firms not disclosing material weaknesses. Doyle, Ge, and McVay (2007) confirm the results in Ge and McVay (2005) but add

that firms disclosing material weaknesses are younger, growing rapidly, or undergoing restructuring. Similarly, Ashbaugh-Skaife, Collins, and Kinney (2006) find that firms reporting internal control weaknesses have more complex operations, recent changes in organizational structure, more accounting risk exposure, and fewer resources to invest in internal control. Furthermore, Doyle, Ge, and McVay (2005) report that firms reporting material weaknesses have lower quality earnings than do those not reporting material weaknesses.

Hogan and Wilkins (2006) investigate how audit firms respond to internal control weaknesses and find that audit fees are significantly higher for firms with internal control weaknesses and these fees increase in the severity of the weaknesses. They interpret this as evidence that audit firms do respond to higher levels of control risk by increasing their audit effort.

A couple of recent working papers also investigate issues related to that studied here. First, De Franco, Guan, and Lu (2005) use a sample of 102 firms reporting internal control weaknesses (which include 45 material weaknesses) without other material news in the event window to investigate whether the market reaction to the internal control weaknesses varies by investor size (i.e., for small versus large investors). They find cumulative size-adjusted returns of -1.8 percent in the three day window surrounding the disclosure of internal control weaknesses<sup>5</sup> and cumulative size-adjusted returns of -1.3 percent in the three day window surrounding the disclosure of material weaknesses. Additionally, their tests related to trading volume suggest that trading by small investors is driving these negative returns. Second, Beneish, Billings, and Hodder (2006) investigate whether the effect of material weaknesses on the cost of capital and on stock prices is associated with audit quality (proxied for by auditor type and by industry

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<sup>5</sup> Similarly, in untabulated analyses, we find that mean cumulative size-adjusted returns of -1.18 percent in the three day window surrounding the disclosure of internal control weaknesses for the 98 observations in our sample with no other material news announced in this returns window.

specialization). They find cumulative size-adjusted returns of -1.8 percent in the three-day window surrounding the disclosure for their sample of 330 firms making material weakness disclosures under §302.<sup>6</sup> They also find that the cost of capital is higher and returns are more negative for firms with material weaknesses when audit quality is lower. Results for a sample of material weaknesses disclosed under §404 suggest that the market reaction may be a function of the amount of information available prior to the disclosure and/or the materiality of the weakness.

Our study differs from this concurrent work in that the aim of our study is to investigate whether market reactions differ based on the characteristics of the internal control weaknesses. Additionally, we focus on a shorter window (i.e., the day of the internal control weakness disclosure) to be certain that we can adequately control for other material events that occur around the event window. In our full sample, similar to Whisenant, Sankaraguruswamy, and Raghunandan (2003), we find no significant stock price reaction to the announcement of the internal control weaknesses but this sample contains observations with other news releases in the three day window around the disclosure of the internal control weaknesses.<sup>7</sup> When we consider only those 98 sample observations without this other news, we find that size-adjusted returns on day 0 are significantly negative (mean returns = -0.54 percent, one-tailed p-value = 0.0582). Moreover, in both samples, we find evidence that market reactions vary with the characteristics of the reported weaknesses – an issue not addressed in prior or concurrent studies.

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<sup>6</sup> Similarly, in untabulated analyses, we find that mean cumulative size-adjusted returns of -2.54 percent in the three day window surrounding the disclosure of internal control weaknesses for the 41 observations in our sample reporting material weaknesses and with no other material news announced in this returns window.

<sup>7</sup> Whisenant et al. (2003) suggest that the market may not react to the announcement of internal control weaknesses because these weaknesses are predictable or because the disclosures are confusing.

### 3. Methodology

#### 3.1. Sample selection

##### 3.1.1. Identifying the full sample of internal control weakness firms

To identify internal control weaknesses announced during our sample period, we began with the sample of 613 disclosures that *Compliance Week* identified on its monthly reports issued during the period November 2003 to January 2005, inclusive.<sup>8,9</sup> To determine the date of the *first* public disclosure of each of these internal control weaknesses, we searched the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system for filings that contained the strings “material weakness\*” or “internal control\*”<sup>10</sup> and adjusted the disclosure date if required. While searching for the internal control weaknesses identified by *Compliance Week*, we identified 26 additional internal control weaknesses disclosed by these firms. We removed 51 duplicate disclosures and 11 disclosures that we determined to be unrelated to an internal control weakness.<sup>11</sup> We next eliminated a number of observations that could not be considered for inclusion in our study due to a variety of reasons – 14 disclosures made by foreign filers, 3 observations where the initial disclosure occurred prior to the implementation of §302, and 111 observations for firms not listed on the Center for Research in Securities Prices (CRSP) tapes. To be certain that the initial disclosure date was correct, we obtained the filing time and date stamp from EDGAR for each of the remaining reports. For reports filed after the close of

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<sup>8</sup> These announcements were made by 555 unique firms.

<sup>9</sup> De Franco et al. (2005), Doyle et al. (2005; 2007), Ge and McVay (2005), Hogan and Wilkins (2006), and Ashbaugh-Skaife et al. (2006) also start with the *Compliance Week* list when identifying their respective samples.

<sup>10</sup> For example, *Compliance Week* identified J&J Snack Foods as disclosing an internal control weakness on January 20, 2005 on Form 10-Q. We searched EDGAR to verify the content of this disclosure, and then searched prior filings and found that the first disclosure of this weakness occurred on the company’s Form 10-K filed on December 8, 2004, so December 8, 2004 (rather than January 20, 2005) serves as the event date in our analyses. Because we are interested in market reactions to the disclosure of internal control weaknesses and we expect these reactions to be strongest when the weaknesses are initially announced, identifying the first disclosure is important.

<sup>11</sup> Interestingly, we found that the first disclosure of an internal control weakness came on the filing identified by *Compliance Week* for only 52.4 percent of observations – that is, we found that the first disclosure came on a prior filing for 47.6 percent of observations.

trading, we moved the event date forward by one trading day to ensure that the day we identified as day 0 was the first day on which the market could react to the disclosure. Interestingly, 56 percent of the reports were filed after the close of trading. We omitted 91 observations because no stock price was available on CRSP on the day that the internal control weakness was disclosed (or on the first trading day following, when the disclosure was made on a non-trading day). The procedure resulted in 358 observations which we considered eligible for inclusion in our study.

### *3.1.2. Identifying a sample of firms without other news around the returns window*

Our sample selection procedure is summarized in Table 1. To recap, 358 observations for which we could obtain returns data on CRSP announced internal control weaknesses during our sample period. To ensure that any observed change in stock price was not due to other events announced around the event date, we searched SEC filings in the  $[-1, 1]$  window around the internal weakness disclosures and identified 175 sample observations making such disclosures on 377 unique filings. We read and coded the content of each of these filings and we control for the presence of other filings in our analyses. The results are summarized in Table 2.

Recall that many of our sample firms initially disclosed the internal control weaknesses on financial statements (forms 10K or 10Q).<sup>12</sup> To ensure that any observed changes in stock price are not a reaction to unexpected earnings, we checked earnings announcement dates and in those cases where earnings were not announced before day  $-1$  but were announced by day  $+1$ , we formed an earnings surprise measure by subtracting the earnings per share announced four quarters prior from the earnings per share announced in the measurement window  $[\text{days } -1, 1]$

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<sup>12</sup> Specifically, sample firms disclosed their internal control weakness on the following forms: 10K (121 observations), 10K/A (25), 10KSB (4), 10KSB/A (2), 10KT (1), 10Q (119), 10Q/A (11), 10QSB (3), 10QSB/A (2), 424B3 (1), 8K (63), 8K/A (1), DEF 14A, (1), S1 (1), S3/A (1), S4 (1), and S4/A (1).

and scaling by stock price per share four quarters prior (after adjusting all inputs for stock splits and dividends). Other internal control weakness disclosures came on amended 10Qs and 10Ks. In these cases, we formed the earnings surprise measure by subtracting the earnings per share as originally disclosed from the amended earnings per share, and scaled by stock price per share four quarters prior (after adjusting for stock splits and dividends). Finally, in some cases, the internal weakness disclosure came on a form 8K where management simultaneously announced earnings. Here, we formed earnings surprise as described in those cases where internal control weaknesses were disclosed on original 10Ks and 10Qs (i.e., we formed an earnings surprise measure by subtracting the earnings per share announced four quarters prior from the earnings per share announced in the measurement window [days  $-1, 1$ ] and scaling by stock price per share four quarters prior (after adjusting all inputs for stock splits and dividends)).

While our sample of 358 observations is relatively small, Cready and Hurtt (2002) note that many short-window event studies use small samples.<sup>13</sup> Additionally, Kothari and Warner (2005) suggest that if abnormal returns are concentrated in a short time period, event studies using very small samples can yield significant results.<sup>14</sup> However, to ensure the reliability of our inferences, we replicate our main regression analyses, which uses ordinary least squares, using approximate randomization, and we find that our results are robust.<sup>15</sup> Finally, the common concern regarding small samples is the lack of statistical power. However, because we find statistical significance, power is not an issue for this study.

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<sup>13</sup> Specifically, they examine event studies using short window metrics, published in *The Accounting Review* during 1992 to 2001. Of the 35 studies examined, 16 (46 percent) contain at least one analysis using fewer than 50 observations.

<sup>14</sup> Specifically, Kothari and Warner (2005) report that a sample size of 21 allows statistical power of 90 percent when abnormal returns are 1 percent for low returns volatility firms, and a sample size of 60 is required for statistical power of 90 percent when abnormal returns are 5 percent and firms have high returns volatility.

<sup>15</sup> We describe this technique in the Multiple Regression section.

### 3.2. Independent variables – definitions, descriptive statistics, and expectations

Many internal control weakness disclosures describe multiple internal control weaknesses. The number of unique weaknesses reported by each sample observation ranges from 1 to 13, and the mean (median) number of weaknesses reported is 2.27 (2) per disclosure. For each sample observation, we read the first disclosure of the internal control weakness and collected data on several characteristics of each weakness, as described in the disclosure – the severity of the weakness, who discovered the weakness, management’s overall evaluation of the internal control system – on whether the weakness would be considered “less auditable” according to the classification scheme described in section 3.2.3, and on the amount of detail about the internal control weakness provided. We also collected information about the identity of the auditor. Details about the categories appear below.

#### *3.2.1. Severity*

We coded the severity of the weakness as belonging to one of three categories (in increasing levels of severity) – control deficiency, significant deficiency, or material weakness. Our full sample includes 58 observations reporting control deficiencies, 87 observations reporting significant deficiencies, and 213 observations reporting material weaknesses. Because material weaknesses are associated with the highest probability of misstatement and because (by definition) any misstatements associated with material weaknesses are more likely to be material misstatements, we expect stock price reactions to be more negative when firms disclose material weaknesses than when they disclose control deficiencies or significant deficiencies.

### 3.2.2. Effectiveness

Section 302 requires management to state an overall conclusion about the effectiveness of the internal control system, and management states these conclusions explicitly.<sup>16</sup> We coded management's overall evaluation of the internal control system in one of three categories – effective, effective except for weaknesses referred to in the disclosure, or ineffective. Our sample includes 152 observations where management concluded that controls were effective, 72 observations where management concluded that controls were effective except for the weaknesses disclosed, 60 observations where management concluded that internal controls were ineffective, and 74 observations where management did not provide an overall evaluation of the internal control system. We are interested in whether the market's reaction is affected by management's statements regarding the effectiveness of the control system, despite the existence of an internal control weakness, and so we form two categories – effective and not effective (where the latter includes anything other than an effective opinion). Interestingly, for the 213 firms with material weaknesses, management concluded that internal controls were effective 29.6 percent of the time (i.e., for 63 observations). Given an internal control weakness of any type, investors could view a management conclusion that the internal controls are effective as *less* negative because they may interpret this as suggesting that management has determined that the underlying problems are not of a serious nature and / or has remediated the control problems. Alternatively, investors could view a management conclusion that the internal controls are effective as *more* negative because they may interpret this as management's failure to be forthcoming and / or to admit the seriousness of control problems that are evidenced by the

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<sup>16</sup> For example, Allied Holdings, Inc.'s disclosure includes the following evaluation: "...the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures are effective..."

existence of an internal control weakness. Because investors could view management's conclusion that control systems are effective in either way, we have no expectations on sign.

### *3.2.3. Auditability*

We classified each individual weakness disclosed as either less or more auditable. Many parties have stated that they do not believe that all material weaknesses will be equally important (Nicolaisen, 2004). Consistent with this, Moody's Investors Service announced that it will review its ratings only for firms that report an internal control weakness which Moody's considers to be more serious (Doss, 2004). These include only those weaknesses that Moody's believes to be more difficult for the auditor to "audit around" (by performing additional substantive audit procedures). These "less auditable" (or more serious) weaknesses are comprised of pervasive control environment, financial reporting, and personnel weaknesses. Moody's considers weaknesses to be "more auditable" (or less serious) if they relate to controls over specific account balances or transaction-level processes.

To determine which weaknesses are indeed less auditable, we consulted four audit partners and one senior manager and asked them to classify the weaknesses we identified on a five-point scale anchored by 1 (easily auditable without additional effort/expense) and 5 (not auditable).<sup>17</sup> They identified five types of weaknesses as less auditable; for these five types of weaknesses, their ratings ranged from 3.5 to 4.0 and the mean rating was 3.7. The remaining 52 types of weaknesses<sup>18</sup> were classified as more auditable; here, ratings ranged from 1.8 to 3.4 and the mean rating was 2.46. The difference in ratings between the items in the less and more auditable categories is highly significant ( $t = 13.26$ ,  $p = 0.000$ ). Moreover, these items generally

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<sup>17</sup> These partners and senior manager had an average of 18 years of auditing experience and had participated in an average of 2.6 internal control audits.

<sup>18</sup> See Table 3 for a list of the 57 weakness types identified.

correspond with the categories proposed by Moody's. Using this classification scheme, we coded the following weaknesses as indicative of less auditable control environment weaknesses: internal control weaknesses that are red flags for fraud or that allowed fraud to occur, insufficient documentation to support transactions or adjusting entries, and inadequate lines of communication between management and accounting staff and / or auditors that prevent transactions from being recorded correctly. We also coded problems with financial statement closing procedures as indicative of a less auditable financial reporting weaknesses. Finally, we coded lack of key personnel (e.g., chief financial officer or controller) and evidence that management overrode internal controls or other integrity issues as indicative of less auditable weaknesses related to ineffective personnel. All other weaknesses identified are considered to be more auditable.

Our sample firms disclosed a total of 815 weaknesses, averaging 2.28 weaknesses per observation.<sup>19</sup> These are described in Table 3. We classified 107 (13.1 percent) of the weaknesses disclosed as less auditable. We formed an indicator variable that takes the value of one for observations disclosing at least one less auditable weakness. Eighty-two (22.9 percent of) observations contain at least one less auditable weakness. Interestingly, 69 of the 82 (84.1 percent of) observations coded as less auditable are disclosed as material weaknesses, but the remaining 13 (15.9 percent) are coded as control deficiencies (1 observation) or significant deficiencies (12 observations). Finally, while 84.1 percent of the observations with at least one less auditable weakness disclose material weaknesses, only 52.2 percent of the observations with only more auditable weaknesses disclose material weaknesses.

Six hundred sixty-two (81.2 percent of) weaknesses disclosed are more auditable and 230 (64.2 percent of) observations contain only more auditable weaknesses. Forty-six (5.7 percent

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<sup>19</sup> Recall that each internal control disclosure describes between 1 and 13 individual control weaknesses.

of) weaknesses disclosed did not contain enough information to classify. Because items coded as less auditable indicate more significant problems with the control environment and the auditor is expected to have a difficult time compensating for these by increasing auditing effort, we expect stock price reactions to less auditable items to be more negative, on average, than stock price reactions to more auditable items.

#### *3.2.5. Vague*

We coded an internal control weakness disclosure as vague if it did not provide sufficient description of the weakness so that the reader could understand the source or importance of the weakness. Our sample includes 73 observations with vague disclosures and 285 observations with disclosures that are not vague. Because vague disclosures may be viewed as management attempts to obfuscate valuable information or as a signal that management does not have a good understanding of the internal control problem, we expect the market reaction to vague disclosures to be more negative than the market reaction to non-vague disclosures.

#### *3.2.6. Discovered by*

We coded who discovered the internal control weakness as either auditor-discovered or not auditor-discovered. Our sample includes 164 observations where the auditor discovered the weakness, 143 observations where management discovered the weakness, 4 observations where both the auditor and management discovered the weakness, and 47 observations where management did not disclose who discovered the weakness. While firms are not required to disclose who discovered the weakness, most firms do so, and this information may be useful in evaluating the weakness. For example, investors could view auditor-discovery *more* negatively

because it could suggest that management did not discover the weakness because it lacked the ability or desire to do so, or that management discovered the weakness but did not disclose it to the auditor. Alternatively, investors could view auditor discovery *less* negatively since they could view this as evidence that auditors are ‘doing their jobs’ and detecting problems in the internal control system. Because investors could view auditor-discovery in either way, we have no expectations on sign.

### 3.2.7. Big 4 Auditor

We collected the identity of the external auditor engaged by the firm when the internal control weakness was identified. We categorize audit firms as either Big 4 firms or non-Big 4 firms. Because findings in the extant literature suggest that the Big N versus non-Big N dichotomy is a useful proxy for external audit quality,<sup>20</sup> and because some evidence on the association between audit quality and earning management activity exists,<sup>21</sup> we expect auditor identity to be useful to investors in their assessment of the severity of the internal control weakness, in their assessment of whether the internal control weakness has been properly and thoroughly identified, or in their evaluation of the auditor’s ability to assess the financial statements given the existence of an the internal control weakness. Consistent with this, analysts at Credit Suisse First Boston suggest that investors should consider their “faith in the auditors” when pricing securities of firms announcing internal control weaknesses (Credit Suisse First

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<sup>20</sup> For example, Big 8 auditors are sued less often than non-Big 8 auditors (Palmrose, 1988), Big 8 clients have larger management forecasting errors (Davidson & Neu, 1993), firms that switch auditors following disagreements are more likely to have previously engaged Big 8 auditors (DeFond & Jambalvo, 1993), the earnings response coefficients of Big 8 clients are higher (Teoh & Wong, 1993), Big 8 auditors command higher audit fees (Craswell, Francis, & Taylor, 1995), and Big 6 auditors are more likely to issue modified audit reports when income-increasing accruals are high (Francis & Krishnan, 1999).

<sup>21</sup> For example, clients of Big N audit firms record fewer income-increasing discretionary accruals (Becker, DeFond, Jambalvo, & Subramanyam, 1998; Francis, Maydew, & Sparks, 1999) and lower discretionary and current accruals (Myers, Myers, & Omer, 2003).

Boston, 2005, p. 7). Accordingly, we expect market reactions to internal control weaknesses to be more negative for firms audited by non-Big 4 auditors. Our sample includes 291 observations with Big 4 auditors and 67 observations with non-Big 4 auditors.

### 3.3. Dependent variables

To assess whether internal control weakness disclosures provide useful information to investors, we investigate whether the market reacts to these disclosures, on average, and whether market reactions are associated with characteristics of those disclosures. We measure stock price reactions. Short-window stock price reactions, as a measure of the market's reaction to information events, are used extensively in the literature and are generally well-specified. Furthermore, "the test statistic is not highly sensitive to the benchmark model of normal returns or assumptions about the cross-sectional or time-series dependence of abnormal returns" and these short-window methods are quite powerful if the abnormal performance is concentrated in the event window (Kothari and Warner, 2005, p. 17-18). We obtain stock return data from CRSP and compute size-adjusted returns on the event day by subtracting from the firm's daily returns the concurrent equally-weighted market return for firms in the same market capitalization decile. Size-adjusting the returns allows us to remove the effects of market-wide changes in stock prices.

## 4. Results

### 4.1. Univariate results

#### 4.1.1. Full sample

In Table 4 we present univariate results for our market reaction measure on day 0. In the full sample, we find that average size-adjusted returns are not significantly different from zero when internal control weaknesses are disclosed. However, when we examine only those observations with no earnings announcements or disclosures of other material news in the three-day window around the disclosure of the internal control weakness (results not tabulated), we find mean size-adjusted returns of  $-0.54$  percent on the day that internal control weaknesses are disclosed ( $p = 0.0582$ ).

#### 4.1.2. Material weakness subsample

It seems likely that market participants will be most interested in the disclosure of material weaknesses because of the severity of these weaknesses and because of the potential for adverse consequences if they remain unremediated once firms must comply with §404. Consequently, in Table 4, Panel B, we examine the market's reaction to the disclosure of material weaknesses. While mean size-adjusted returns are not significantly different from zero in the full sample, when we examine only those observations with no earnings announcements or disclosures of other material news in the three-day window around the disclosure of the material weakness (results not tabulated), we find mean size-adjusted returns of  $-0.95$  percent on the day that material weaknesses are disclosed ( $p = 0.0737$ ).

#### 4.1.3. Analyses by the severity of the weakness

We perform additional untabulated analyses on only those observations with no earnings announcements or disclosures of other material news in the three-day window around the disclosure of the internal control weakness. This analysis reveals that returns are significantly more negative when management discloses material weaknesses than when it discloses control deficiencies ( $p = 0.0553$ ) and that returns are significantly more negative when management discloses significant deficiencies than when it discloses control deficiencies ( $p = 0.0938$ ).

Overall, our univariate results suggest that the market *does* revise its aggregate beliefs downward in response to the disclosure of a material weakness. The downward revision in market price is consistent with concerns about potential material misstatements, costs that will be necessary to remediate the material weakness, or the implications if the firm is unable to remediate the material weakness in time to obtain an unqualified audit opinion about the effectiveness of internal controls.

#### 4.2. Multiple regression results

In Tables 5 and 6 we present multiple regression analyses using ordinary least squares (OLS). Moreover, because traditional test statistics are not well-specified for small samples (Noreen, 1988; Noreen, 1989), we also test the significance of the coefficient estimates using approximate randomization. Noreen (1989) demonstrates that approximate randomization tests are nearly as powerful (i.e., are at least as likely to reject the null when it is false) as conventional parametric tests even when the data conform to the assumptions of the parametric test. Furthermore, approximate randomization tests are valid regardless of whether the assumptions of conventional parametric tests are valid. See Noreen (1989) for a detailed description of this methodology.

Under approximate randomization, we randomly shuffle the dependent variable over all observations and run our regression model to generate coefficient estimates. We repeat this process 999 times and compare the coefficient estimates from the observed data to the distribution of coefficient estimates generated via randomization.<sup>22</sup> When shuffled, the dependent variable is not related to the independent variables. By comparing the estimated coefficient to the distribution of coefficients generated with the shuffled data, we are able to determine how often a test statistic at least as large as that estimated from the observed data occurs by chance if the dependent variable is unrelated to the independent variables. The benefits of using this method are that no distributional assumptions are made about the residuals and that the observations are not assumed to be a random sample drawn from a population (Noreen, 1989, 12). We present p-values derived using this technique in Tables 5 and 6 in square brackets, just below p-values calculated using OLS regression analysis with White's adjustment for heteroskedasticity (presented in parentheses). The test statistics on all characteristics of internal control weaknesses that are generated using approximate randomization are substantively similar to those derived using OLS, providing greater confidence in our interpretations.

#### *4.2.1. Basic characteristics model*

In Table 5, we perform analyses on the full sample of internal control weaknesses. Specifically, we regress size-adjusted returns on the characteristics of internal control weaknesses discussed previously and on our proxy for audit quality, controlling for unexpected

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<sup>22</sup> An alternative method would be to compare the t-statistics from the observed data to the distribution of t-statistics generated via randomization, but according to Noreen (1989, p. 30), "[w]hen the matrix of explanatory variables is fixed, it doesn't make any difference whether the estimated coefficients or their t-statistics are used as the test statistics in an approximate randomization tests. This is because the t-statistics are directly proportional to the coefficients when the covariance matrix is fixed."

earnings and for other news. To be sure that extreme observations are not unduly influencing our inferences, we omit all observations with studentized residuals having an absolute value greater than three. We also report significance tests after making White's adjustment for heteroskedasticity. Expected signs appear in the table and follow from our expectations discussed in the Independent Variables section. Overall, results indicate that certain characteristics of internal control weaknesses *do* affect returns.

Contrary to expectations, in our multiple regression analyses, we do not find that returns are more negative for firms announcing material weaknesses than for firms announcing deficiencies or significant deficiencies. However, we find that returns are significantly less negative ( $\beta = 1.052$  percent,  $p = 0.0268$ ) if management concludes that internal controls are effective despite the presence of an internal control weakness. Moreover, we find that returns are more significantly negative ( $\beta = -1.344$  percent,  $p = 0.0254$ ) when the internal control weaknesses are less auditable and when disclosures about these weaknesses are vague ( $\beta = -1.309$  percent,  $p = 0.0250$ ). While we find that auditor discovery has no effect on returns, we find weak evidence that returns are associated with our proxy for audit quality. Specifically, returns are less negative ( $\beta = 0.946$  percent,  $p = 0.1017$  using OLS but  $p = 0.076$  using approximate randomization) when the firm engages a Big 4 auditor than when it engages a smaller auditor. Finally, we find that returns are positively associated with our control for earnings surprise, but not with our control for the existence of other news in the announcement window.<sup>23</sup>

Overall, these results reveal that some of the information contained in the internal control weakness disclosures is informative and is used by investors to revise their average expectations about firm value.

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<sup>23</sup> This is likely because the nature of the news is not uniform. See Table 2.

#### 4.2.2. *Full interaction model*

Because we expect that the severity of the internal control weakness (i.e., whether the disclosed weakness is a material weakness versus a significant deficiency or control deficiency) may be important in understanding how investors interpret information about whether management concludes that the control system is effective, the auditability of the weakness, the amount of detail in the disclosure, who discovers the weakness, and the identity of the auditor, in Table 6 we estimate a model which contains interactions between the material weakness indicator variable and each of the other characteristics. To assess the association between returns and our explanatory variables, we need to consider the main effects reported in the table along with the joint tests reported at the bottom of the table. For brevity's sake, we discuss here only those main and joint tests which are significant.

As was the case in our previous analyses, we find that the auditability of the weakness is associated with the market's reaction. Specifically, we find that for non-material weaknesses (i.e., significant deficiencies and control deficiencies), returns are more negative ( $\beta = -2.34$  percent,  $p = 0.0239$ ) when the weaknesses are less auditable. Joint tests reveal that this is also the case for material weaknesses. Here, returns are again more negative ( $\beta = -1.24$  percent,  $p = 0.0628$ ) when material weaknesses are less auditable than when they are more auditable. We also find that the relation between returns and how vague the disclosure is is driven by the observations with material weaknesses. Specifically, we find that returns are not associated with how detailed disclosures are when weaknesses are significant deficiencies or control deficiencies, but are significantly more negative when material weakness disclosures are vague ( $\beta = -2.89$  percent,  $p = 0.0197$ ). Finally, we continue to find that returns are positively associated

with our control for earnings surprise, but not with our control for the existence of other news in the announcement window. Overall, these results reveal the information content of internal control weakness disclosures depends on the severity of the internal control weakness.

## **5. Conclusions**

In this study we examine the market's reaction to internal control weakness disclosures and characteristics of these disclosures under §302 of the Sarbanes Oxley Act of 2002. When we examine only those observations with no earnings announcements or disclosures of other material news in the three-day window around the disclosure of the internal control weakness, we find that size-adjusted returns on the day that the weaknesses are disclosed are significantly negative, suggesting that investors' aggregate beliefs about firm value are revised downward. Moreover, we find that the magnitude of the market reaction is related to the severity of the weakness, and that returns are most negative for material weaknesses. We posit that the disclosure of a material weakness may lead to investor concerns about the expense that will be necessary to remediate the weakness, the possibility that the weakness will remain unremediated and require auditors to issue an adverse opinion on the internal control audit under §404 (the consequences of which are currently unknown), and / or the possibility that uncorrected errors remain in the financial statements. When we perform multiple regression analyses on our full sample of observations disclosing internal control weaknesses, we find that returns are significantly less negative if management concludes that internal controls are effective despite the presence of an internal control weakness and weakly less negative when the firm engages a Big 4 auditor than when it engages a smaller auditor. We also find that returns are significantly more negative when the internal control weaknesses are less auditable and when disclosures

about these weaknesses are vague. Overall, these results reveal that information contained in the internal control weakness disclosures is informative and is used by investors to revise their average expectations about firm value. In subsequent analyses, we find that the relation between returns and auditability holds for significant deficiencies and control deficiencies as well as for material weaknesses. This indicates that regardless of the assessed severity of these weaknesses, investors appear to be concerned about the presence of any weaknesses that may impact the financial statement auditor's ability to conduct a successful audit. However, the relation between returns and how vague the disclosure is is driven by the observations with material weaknesses. Overall, this suggests that the information content of internal control weakness disclosures depends on the severity of the internal control weakness.

The quarterly certifications of internal controls (under §302) combined with the annual audits of internal controls (required under §404) provide market participants with much more timely information about the quality of a company's internal control system than was previously available. We believe that any analysis of the effects of these new reporting requirements will require a detailed study of the incremental effects of both §302 and §404. Our examination of market reactions to disclosures of internal control weaknesses under §302 is a first step. It suggests that investors use the information provided in internal control weakness disclosures under §302. As such, our results should be of interest to regulators (who are struggling with cost-benefit issues related to these disclosures), to auditors, and to companies required to comply with the regulations.

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**Table 1** Sample selection

<b>Sample of control weakness firms announcing initial internal control weaknesses under §302, as identified by Compliance Week on monthly reports issued from November 2003 to January 2005 inclusive</b>	613
Add:	
Additional unique disclosures identified from Edgar	26
	<u>639</u>
Less:	
Duplicate disclosures	51
Disclosures unrelated to internal control weaknesses	11
Disclosure made by foreign filers	14
Observations occurring prior to the implementation of section 302	3
Observations for firms not listed on CRSP	111
Observations with day 0 returns not available from CRSP	91
<b>Full sample</b>	<u>358</u>

**Table 2** Content of other disclosures made in the three-day window around the announcement of internal control weaknesses

<b>Description of announcement</b>	<b>Number of announcements</b>	<b>Percent of announcements</b>
Acquisition of ownership	20	5.3
Changes in securities ownership	91	24.1
Filing of 8K	86	22.8
Filing of amended 8K	6	1.6
<b>Content of 8K's and amended 8K's:</b>		
Auditor change	6	
Bankruptcy related	2	
Conference call	4	
Contract completion	9	
Debt of stock sale	4	
Dividend announcement	2	
Earnings announcement	18	
Earnings guidance	2	
Executive changes	8	
Filing of annual or quarterly reports	18	
Investigation	5	
Notice of delisting	4	
Other	9	
Restatement related	13	
Total	104	
Filing of amended annual report	15	4.0
Filing of amended quarterly report	62	16.4
Filing of annual report	7	1.9
Filing of annual report for employee stock purchase plan	1	0.3
Filing of preliminary proxy statement	3	0.8
Filing of proxy statement	9	2.4
Filing of quarterly report	29	7.7
Notice of delisting	1	0.3
Notice of late filing	8	2.1
Notice of registration of securities	1	0.3
Notice of termination of registration	1	0.3
Other	2	0.5
Prospectus regarding business combinations	10	2.7
Registration statement	16	4.2
Securities ownership disclosures	9	2.4
<b>Total</b>	<b>377</b>	<b>100.0</b>

Note that the total number of issues discussed on Forms 8K and amended Forms 8K is greater than the number of 8K's filed because some 8K's discuss more than one issue.

**Table 3** Disclosure auditability categories

	<b>Number of weaknesses</b>	<b>Percent of weaknesses</b>
<b>A. Less auditable disclosure categories</b>		
1. Weaknesses in key personnel		
a. Lack of key personnel – CFO, controller, etc.	9	1.1
b. Evidence of management override of controls or integrity issues	5	0.6
2. Financial reporting weaknesses		
a. Problems with financial statement closing procedures	16	2.0
3. Control environment weaknesses		
a. Internal control weaknesses that are red flags for fraud or that allowed fraud to occur	15	1.8
b. Insufficient documentation or policies to support transactions or adjusting entries	47	5.8
c. Inadequate lines of communication between management and accounting staff and/or auditors that prevent transactions from being recorded correctly	15	1.8
<b>Total less auditable weaknesses</b>	<b>107</b>	<b>13.1</b>
<b>B. More auditable disclosure categories</b>		
1. Personnel weaknesses		
a. Lack of technical competence of FAS or SEC filing requirements	36	4.4
b. Lack of quality corporate governance – Audit committee, BOD, etc.	5	0.6
c. Inadequate training	14	1.7
d. Staffing limitations and lack of resources at lower level	52	6.5
e. Lack of internal audit function or other monitoring	16	2.0
2. Control system weaknesses		
a. Inadequate or lack of timely review	60	7.3
b. Incomplete account analysis	17	2.1
c. Untimely preparation of account reconciliations	44	5.4
d. Inadequate controls over non-routine transactions	14	1.7
e. Lack of discipline around financial reporting	6	0.7
f. Approval procedures not followed	2	0.2
g. Other procedures not followed	1	0.1
h. Inadequate general computer controls	5	0.6
i. Poor segregation of duties	44	5.1

j. Inadequate access security	21	2.6
k. Other IT weaknesses	23	2.8
l. Lack of documentation of control procedures	29	3.7
m. Lack of documentation of IT systems	8	1.0
n. Multiple systems or platforms are in use increasing complexity	9	1.1
o. Use of and lack of control over spreadsheets	8	1.0
p. Use of and lack of control over manual systems	9	1.1
3. Transaction accounting weaknesses		
a. Revenue recognition	51	6.4
b. Expense recognition	14	1.7
c. Accounts receivable	7	0.9
d. Tax accounting	21	2.6
e. Inventory accounting	25	3.1
f. Debt covenants	2	0.2
g. Consolidation	15	1.8
h. Fixed assets	13	1.6
i. Stock-based compensation	9	1.1
j. Fair value accounting	3	0.4
k. Foreign currency	3	0.4
l. Goodwill	2	0.2
m. Patents and other intangibles	4	0.5
n. Software development	4	0.5
o. Accruals	16	2.0
p. Minority interest	2	0.2
q. Deferred revenue	1	0.1
r. Other assets	5	0.6
s. Earnings per share	1	0.1
t. Accounts payable	3	0.4
u. Payroll	2	0.2
v. Subsidiaries and related parties	7	0.9
w. Oil and gas reserves	4	0.5
x. Loans	6	0.7
y. Leases	3	0.4
z. Cash	3	0.4
aa. Stock issuance	4	0.5
bb. Pension	2	0.2
4. Lack of control over routine transactions	7	0.9
<b>Total more auditable weaknesses</b>	<b>662</b>	<b>81.2</b>
<b>C. Not enough information disclosed to categorize</b>	<b>46</b>	<b>5.7</b>

---

Notes:

The number of disclosures in each cell was calculated by reading each internal control weakness disclosure and recording the specific weaknesses discussed therein.

The classification scheme is based on a scheme suggested by Moody's Investor Service and several experienced audit professionals.

**Table 4** Size-adjusted returns on the disclosure date, univariate results

Panel A: All Internal Control Weaknesses	
Mean	-0.39
p-value	0.1481
Median	-0.09
p-value	0.2140
N	358
Panel B: Material Weaknesses	
Mean	-0.48
p-value	0.2046
Median	-0.09
p-value	0.2919
N	213

**Notes:**

We compute size-adjusted returns on the event day (day 0) by subtracting from individual firm daily returns the concurrent equally-weighted market return for firms in the same market capitalization decile. Returns are expressed in percent.

Reported p-values are from one-tailed tests where signs on size-adjusted returns are expected to be negative.

**Table 5** Multiple regression of size-adjusted returns on characteristics of internal control weaknesses

	<b>Expected sign</b>	<b>Day 0</b>
Intercept	-	-1.358 (0.0730)* [0.144]
MW	-	0.002 (0.5029) [0.494]
Effective	?	1.052 (0.0268)** [0.056]*
Less Auditable	-	-1.344 (0.0254)** [0.021]**
Vague	-	-1.309 (0.0250)** [0.025]**
Auditor Discovered	?	-0.249 (0.6460) [0.671]
Big 4 Auditor	+	0.946 (0.1017) [0.076]*
Earnings Surprise	+	4.040 (0.0237)** [0.020]**
Other News	?	0.608 (0.2085) [0.319]
Adjusted R <sup>2</sup>		0.0315

**Notes:**

Each cell contains the parameter estimate and p-values. White's heteroskedasticity adjusted p-values are reported in parentheses and p-values from approximate randomization tests are reported in square brackets. P-values are from one-tailed tests when expectations on sign are stated.

\*\*\* indicates  $p < 0.01$ ; \*\* indicates  $p < 0.05$ ; \* indicates  $p < 0.10$

We compute size-adjusted returns on the event day by subtracting from individual firm daily returns the concurrent equally-weighted market return for firms in the same market capitalization decile. Returns are expressed in percent. MW is an indicator variable set to 1 if the most serious weakness disclosed is a material weakness, and set to 0 otherwise.

Effective is an indicator variable set to 1 if management concludes that the internal controls are effective, and set to 0 otherwise.

Less Auditable is an indicator set to 1 if the firm disclosed an internal control weakness that was coded as less auditable, and set to 0 otherwise.

Vague is an indicator set to 1 if the disclosure is coded as vague, and set to 0 otherwise.

Auditor Discovered is an indicator variable set to 1 if the auditor discovered the internal control weakness, and set to 0 otherwise.

Big 4 Auditor is an indicator set to 1 if the firm is audited by a Big 4 auditor, and set to 0 otherwise.

For those observations where internal control weaknesses are disclosed on forms 10K or 10Q and for those observations where internal control weaknesses are disclosed on form 8Ks that announce earnings, Earnings Surprise is calculated as the difference between earnings per share announced in the measurement window [days -1, 1] - earnings per share announced four quarters prior / price per share four quarters prior, where all inputs are adjusted for stock splits and stock dividends. For those observations where internal control weakness disclosures are made on amended 10Qs and 10Ks, we calculated Earnings Surprise by subtracting the earnings per share as originally disclosed from the amended earnings per share, and scaling by stock price per share four quarters prior (after adjusting for stock splits and dividends). When earnings are not announced or revised in the measurement window, Earnings Surprise is set to 0.

Other News is an indicator set to 1 if the firm filed another form with the SEC in the measurement window [days -1, 1], and set to 0 otherwise.

N = 348 firms; observations with studentized residuals having an absolute value greater than 3 are omitted to control for influential observations.

**Table 6** Multiple regression of size-adjusted returns on characteristics of internal control weaknesses, full interaction model

	<b>Expected sign</b>	<b>Day 0</b>
Intercept	-	-1.457 (0.0695)* [0.211]
MW	-	0.138 (0.5375) [0.525]
Effective	?	0.619 (0.2519) [0.472]
MW * Effective	?	0.712 (0.7510) [0.539]
Less Auditable	-	-2.344 (0.0239)** [0.071]*
MW * Less Auditable	-	1.095 (0.7775) [0.742]
Vague	-	-0.365 (0.2638) [0.343]
MW * Vague	-	-2.523 (0.0481)** [0.035]**
Auditor Discovered	?	-0.099 (0.8805) [0.918]
MW * Auditor Discovered	?	-0.191 (0.4254) [0.871]
Big 4 Auditor	+	1.017 (0.1162) [0.188]
MW * Big 4 Auditor	?	-0.049 (0.9716) [0.979]
Earnings Surprise	+	4.244 (0.0263)** [0.013]**
Other News	?	0.641 (0.1850) [0.309]

Adjusted R <sup>2</sup>		0.0296
<i>Joint tests</i>		
Effective + MW * Effective	?	1.32 (0.1327)
Less Auditable + MW * Less Auditable	-	-1.24 (0.0628)*
Vague + MW * Vague	-	-2.89 (0.0197)**
Auditor Discovered + MW * Auditor Discovered	?	-0.28 (0.7047)
Big 4 Auditor + MW * Big 4 Auditor	?	0.96 (0.3677)
MW + MW * Effective	?	0.85 (0.5688)
MW + MW * Less Auditable	-	1.24 (0.7412)
MW + MW * Vague	-	-2.38 (0.1262)
MW + MW * Auditor Discovered	?	-0.05 (0.9723)
MW + MW * Big 4 Auditor	?	0.09 (0.9087)

**Notes:**

Each cell contains the parameter estimate and p-values. White's heteroskedasticity adjusted p-values are reported in parentheses and p-values from approximate randomization tests are reported in square brackets. P-values are from one-tailed tests when expectations on sign are stated.

\*\*\* indicates  $p < 0.01$ ; \*\* indicates  $p < 0.05$ ; \* indicates  $p < 0.10$

We compute size-adjusted returns on the event day by subtracting from individual firm daily returns the concurrent equally-weighted market return for firms in the same market capitalization decile. Returns are expressed in percent. MW is an indicator variable set to 1 if the most serious weakness disclosed is a material weakness, and set to 0 otherwise.

Effective is an indicator variable set to 1 if management concludes that the internal controls are effective, and set to 0 otherwise.

Less Auditable is an indicator set to 1 if the firm disclosed an internal control weakness that was coded as less auditable, and set to 0 otherwise.

Vague is an indicator set to 1 if the disclosure is coded as vague, and set to 0 otherwise.

Auditor Discovered is an indicator variable set to 1 if the auditor discovered the internal control weakness, and set to 0 otherwise.

Big 4 Auditor is an indicator set to 1 if the firm is audited by a Big 4 auditor, and set to 0 otherwise.

For those observations where internal control weaknesses are disclosed on forms 10K or 10Q and for those observations where internal control weaknesses are disclosed on form 8Ks that announce earnings, Earnings Surprise is calculated as the difference between earnings per share announced in the measurement window [days -1, 1] - earnings per share announced four quarters prior / price per share four quarters prior, where all inputs are adjusted for stock splits and stock dividends. For those observations where internal control weakness disclosures are made on amended 10Qs and 10Ks, we calculated Earnings Surprise by subtracting the earnings per share as originally disclosed from the amended earnings per share, and scaling by stock price per share four quarters prior (after adjusting for stock splits and dividends). When earnings are not announced or revised in the measurement window, Earnings Surprise is set to 0.

Other News is an indicator set to 1 if the firm filed another form with the SEC in the measurement window [days -1, 1], and set to 0 otherwise.

N = 348 firms; observations with studentized residuals having an absolute value greater than 3 are omitted to control for influential observations.



**Internal Control Weaknesses and Information Uncertainty**

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## **Internal Control Weaknesses and Information Uncertainty**

### **Abstract**

Using a sample of 336 firms making reports required by the Sarbanes-Oxley Act, we examine the effect of mandated internal control weaknesses disclosures on information uncertainty for disclosing firms and for size- and performance-matched non-disclosing firms. We find a significantly negative (weakly positive) price response for disclosing (non-disclosing) firms consistent with resolution of information uncertainty in both groups. For disclosing firms we find that the negative market response to disclosure is exacerbated by conditions associated with higher inherent reporting risk, including auditor turnover and high-risk industry membership. However, we find that the negative market response to disclosure is mitigated when the firm has engaged a high quality auditor. In addition, we find that the negative market reaction for disclosing firms is dampened when the firm's previously reported earnings have an abnormally high accruals component. This result is consistent with the disclosure having lower information content when poor earnings quality has already been conveyed by high abnormal accruals.

**JEL Classification: G14, G18, G30**

**Keywords: earnings quality; information uncertainty; reporting credibility; Sarbanes-Oxley; regulation**

## 1. Introduction

Recent accounting scandals have led to increased interest into the determinants and consequences of low financial reporting quality. A series of congressional inquiries into the integrity of financial reporting systems in the United States culminated with the passage of the Sarbanes-Oxley Act (SOX) in 2002. Among other provisions, SOX requires firms to identify and disclose material weaknesses in internal controls over financial reporting. One potential effect of these disclosures is a reduction of the average level of information uncertainty in the market. Easley and O'Hara (2004) shows that information uncertainty may be a non-diversifiable risk factor priced by investors. Therefore, regulation that reduces systematic information risk may reduce the average cost of equity and promote economic growth.

In this paper, we focus on the market response to mandated disclosures that provide information about the credibility of firms' financial reporting systems. First, we measure abnormal returns over the three-day window surrounding the disclosure event to determine whether the market response to disclosing (non-disclosing) firms is consistent with an increase (decrease) in perceived information uncertainty. Second, we examine factors expected to exacerbate or mitigate the market response to the disclosures, including audit quality, industry membership, auditor turnover, prior restatements and previous signals of low earnings quality. Third, we perform two tests to determine whether the negative market response is consistent with higher perceived information risk. Specifically, we evaluate whether the market's response to earnings announcements declines when weaknesses are disclosed, consistent with lower perceived informativeness of earnings. We also evaluate whether abnormal trading volume increases with disclosure, consistent with greater information uncertainty for disclosing firms.

Our study contributes to three important streams of research. The first is how the quality of financial disclosures affects the capital markets. Prior research has been subject to limited availability of meaningful proxies for financial reporting quality. For example, Botosan (1997) and

Botosan and Plumlee (2002) provide some evidence that the quantity of disclosures is negatively associated with the cost of equity for firms with low analyst following. However, inferences are limited to the extent that disclosure quantity does not capture disclosure quality. Similarly, the documentation of disproportionately negative reactions to financial report restatements is consistent with the pricing of increased information uncertainty (Hribar and Jenkins, 2004, Palmrose et al., 2004). However, restatement announcements confound information about future financial performance with information about the credibility of the firm's financial reporting system. In contrast, our setting allows us to evaluate the capital market effects of disclosures directly targeted at the quality of individual firm's financial reporting system separately from disclosures about financial performance.

Our study also contributes to research that investigates how auditor attestation affects the perceived credibility of financial reporting systems. Teoh and Wong (1993) finds that firms engaging high quality auditors have higher earnings response coefficients. Becker et al. (1998) finds that firms engaging high quality auditors have lower discretionary accruals. However, these results are consistent either with the selection of high quality auditors by high quality firms, or with the engagement of high quality auditors resulting in higher perceived earnings quality. In contrast, our setting allows us to examine the marginal effect of auditor type on the market reaction to an uncertainty-increasing event. Finding a positive effect of audit quality on information uncertainty in this setting is consistent with the engagement of high-quality auditors resulting in higher actual or perceived financial reporting quality.

Finally, our paper contributes to the stream of research assessing the effects of Sarbanes-Oxley provisions on the financial reporting environment, for which results have been mixed. Li et al. (2004) and Jain and Rezaee (2003) document a positive market reaction to the regulatory proposals culminating with the passage of SOX, consistent with SOX having a net beneficial effect on the quality of financial reporting. Consistent with these results, Jain et al. (2004) finds that information

uncertainty reflected in bid-ask spreads declined subsequent to SOX. In contrast, Cohen et al. (2004) finds no change in earnings informativeness following the passage of SOX and Bhattacharya et al. (2002) finds no significant market response to CEO and CFO certification requirement. Each of these studies primarily addresses perceived changes in the average information environment and all but Bhattacharya et al (2002) are based on anticipated rather than actual implementation of SOX. In contrast, our study focuses on the effect on firm-specific information uncertainty of disclosures about reporting quality resulting from implementation of SOX. Hence, our analysis can reveal significant individual effects that might cancel out in aggregate, and the power of our tests is potentially stronger.

Our paper contains the following results. First, we find a significantly negative (weakly positive) price response for disclosing (non-disclosing) firms consistent with resolution of information uncertainty in both groups. Second, for disclosing firms we find that the negative market response to disclosure is exacerbated by conditions associated with higher inherent reporting risk, including auditor turnover and high-risk industry membership. However, we find that the negative market response to disclosure is mitigated when the firm has engaged a high quality auditor. Finally, we find that the negative market reaction for disclosing firms is dampened when the firm's previously reported earnings have an abnormally high accruals component. This result is consistent with the disclosure having lower information content when poor earnings quality has already been conveyed by high abnormal accruals.

The rest of the paper is organized as follows. In the next section we provide background on SOX and discuss previous literature examining information risk. In Section 3 we describe our hypotheses and research design. In section 4 we describe our sample and provide descriptive statistics. We present results in Section 5, and additional analyses in Section 6. Section 7 contains a summary and our conclusions.

## **2. Background and prior research Background and prior research**

### *2.1 Regulation of internal accounting controls*

The Securities Acts of 1933 and 1934 give the Securities and Exchange Commission little authority over firms' operational matters or their internal accounting controls. Hence, regulatory oversight over firms' internal controls results from subsequent legislation enacted, generally in response to accounting scandals. The passage of the Foreign Corrupt Practices Act ("FCPA") in 1979 marks the first legislative effort to instill investor confidence in the quality of financial reporting by providing regulatory standards for internal accounting controls. The FCPA requires issuers to "make and keep books, records, and accounts, which, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the issuer." Although these provisions are consistent with the establishment and maintenance of an effective system of internal controls, the FCPA offers no materiality standard, and there is little authority for enforcement of the Act in the absence of evidence of other wrong-doing.

Regulatory authority over internal accounting controls is expanded by the passage of the Federal Deposit Insurance Corporation Improvement Act ("FDICIA") in 1991 in response to the large number of bank failures in the 1980s. In addition to requiring banks to establish and maintain a documented system of internal controls, pioneering provisions of FDICIA called for banks to assess and report on the adequacy of their internal controls, and for these controls to be subjected to independent audit.

The consequence of well-publicized accounting scandals, the Sarbanes-Oxley Act of 2002 ("SOX") expands the scope of regulatory oversight over internal controls to all public companies (rather than simply financial institutions), and relative to FDICIA, introduces new provisions emphasizing the certification and testing of internal controls by management and independent auditors. In particular, SOX significantly changes the information environment by providing for the establishment, maintenance and periodic certification in public reports of internal controls over

financial reporting, and by requiring firms to publicly disclose the nature and existence of any material weaknesses in internal controls over financial reporting.

Significant new reporting requirements for public companies and their independent auditors are summarized in Figure 1. Among the new requirements are Sections 302 and 404, which focus on internal control over financial reporting. Section 302, *Corporate Responsibility for Financial Reports*, requires CEOs and CFOs to certify in the company's quarterly and annual reports that:

- they reviewed the report,
- the report contains no misrepresentations,
- the financial information is fairly presented,
- they have reported any internal control weaknesses (including fraud) to the audit committee, and,
- they have reported any material changes in internal controls.

Under Section 404, *Enhanced Financial Disclosures, Management Assessment of Internal Controls*, both management and the company's independent auditor have increased responsibility with respect to internal controls. Specifically, Section 404 requires management to issue an "internal control report" in which they take responsibility for maintaining adequate internal controls and make assertions concerning their effectiveness. The company's auditor then must issue a separate opinion on management's assertions and the adequacy of the internal controls. We rely on these new reporting requirements and evaluate the information conveyed to investors by public disclosures of material internal control weaknesses.

## 2.2 Prior research

Our analyses of the information conveyed by disclosures of material weaknesses are related to three streams of research. The first includes research that investigates the market effects of the passage of the Sarbanes-Oxley Act in 2002 to assess whether the Act and its financial statement certification provisions are effective in reducing uncertainty about the quality of firms' financial reporting. Li et al. (2004) and Jain and Rezaee (2003) document a positive market reaction to the regulatory proposals that culminated with the passage of SOX, consistent with SOX having a net

beneficial effect on the quality of financial reporting. Jain et al. (2004) finds that information uncertainty reflected in bid-ask spreads declined subsequent to SOX. However, Cohen et al. (2004) finds no change in earnings informativeness following the passage of SOX, and Bhattacharya et al. (2002) finds no significant market response to the CEO and CFO certification requirement.

In contrast to these studies that evaluate the aggregate market effects of actual and perceived regulatory intervention associated with the passage of SOX, our setting enables us to examine the implications for individual firms of the implementation of a specific provision of the Act: the recently binding requirement to disclose material weaknesses.

A second body of research investigates how auditor characteristics and auditor actions affect the perceived credibility of financial reporting systems. For example, Teoh and Wong (1993) finds that firms engaging “BIG” auditors (a proxy for high quality auditors) have higher earnings response coefficients, and Becker et al. (1998) finds that firms engaging such auditors have lower discretionary accruals. The direction of causality is not clear from these studies. Firms with high quality financial reporting may engage high quality auditors. Alternatively, high quality auditors are better able to detect manipulations and their actions result in higher perceived earnings quality.

In contrast to prior work, our setting allows us to:

- 1) Examine the marginal effect of auditor type on the market reaction to an uncertainty-increasing event. Finding a positive effect of audit quality on information uncertainty while controlling for market perception of firms’ earnings quality is consistent with the engagement of high-quality auditors resulting in higher actual or perceived financial reporting quality.
- 2) Assess the information content of disclosures of internal control weaknesses both independently from auditor resignations, and for a wider range of control weaknesses.<sup>1</sup>

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<sup>1</sup> Prior research documents a negative market reaction to disclosures of material weaknesses in conjunction with auditor resignations reported under the requirements of FRR No 31 (SEC 1988) (e.g., DeFond et al. 1997, Whisenant et al. 2003, Beneish et al. 2005). In contrast to these studies we are able to assess the information content of disclosures of internal control weaknesses independently from auditor resignations. As well, the threshold for disclosure is significantly greater under FRR No 31 than SOX because FRR No 31 only requires disclosure about internal control weaknesses when such weaknesses are associated with auditor resignations.

The final stream of research to which we contribute attempts to document a connection between earnings quality and the stock market response to earnings or cost of capital. Easley, Hvidkjaer and O'Hara (2002) finds results consistent with the prediction that firms can reduce the cost of capital by increasing the precision of information, and Easley and O'Hara, (2004) shows that uncertainty about valuation parameters can affect firms' costs of capital. Development of this line of inquiry has been restricted by difficulties inherent in measuring the quality of earnings. For lack of better proxies to capture earnings quality, existing accounting research has tended to focus on the quantity of information, rather than the quality.

For example, Botosan (1997) and Botosan and Plumlee (2002) use the level of disclosure as a proxy for earnings quality. Botosan (1997) provides evidence suggesting a negative relation between the cost of equity capital and increased disclosure in annual reports for firms with low analyst following in the machine industry in 1990. However, after expanding the analysis to a sample of firms across industries and time, Botosan and Plumlee (2002) finds that the relation between disclosure level and cost of capital is not clear. In particular, they show a negative, positive, and no relation between disclosure level and cost of capital depending on disclosure type (i.e., annual report, quarterly and other reports, and investor relations). Moreover, their inferences must be qualified to the extent that quantity of information is not representative of information quality.

Francis et al.(2004) provide large sample evidence about the association between earnings quality and the cost of capital. However, Francis et al. (2004) acknowledge that their proxies for earnings quality cannot separate the effects associated with discretionary choices about reporting quality from the effects arising from uncontrollable factors associated with each firm's reporting environment. Hence, the cost of capital effects they document cannot be directly attributed to low reporting quality.

Palmrose et al. (2004) and Hribar and Jenkins (2004) document a significantly negative market reaction to restatement announcements. On average, the magnitude of the negative market

reaction is disproportionate to the size of the restatement, suggesting that low reporting credibility is costly, either due to increases in regulatory or legal costs or increases in perceived information risk. However, market reactions to restatements confound information about future financial performance with information about the credibility of the firm's financial reporting system. We contribute to research evaluating the market pricing of earnings quality by evaluating the market response to disclosures targeted at the quality of individual firm's financial reporting system separately from disclosures about financial performance.

### **3. Hypotheses and research design**

#### *3.1 Overview*

Easley and O'Hara (2004) show that the average cost of capital is increasing in the absolute level of information uncertainty and in informational heterogeneity among firms. Consequently, investors will demand higher returns from individual firms with greater information uncertainty. This suggests that firms making uncertainty-increasing disclosures will experience negative abnormal returns. In addition to this hypothesis, we assess whether mandated disclosure of private information about internal controls weaknesses creates an intra-industry information transfer.<sup>2</sup> That is, we assess whether the absence of material weakness disclosure for similar firms in the same industry is a signal that decreases uncertainty about the quality of non-disclosing firms' financial reporting. To examine whether there is evidence of such an information transfer, we match our experimental firms to two alternative control samples: (1) firms in the same industry matched on size (i.e., total assets at the end of 2003), (2) firms in the same industry matched on performance (i.e., lagged return on assets at the

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<sup>2</sup> Prior intra-industry information-transfer research studies stock-price reactions for multiple firms within an industry and interprets the price reactions to be indicative of the overall health of the industry or of shifts in the competitive balance within the industry. Prior research has investigated numerous such settings including announcements of earnings (e.g., Foster 1981), management forecasts of earnings (Baginski 1987), sales (e.g., Olsen, Dietrich, and Bernard 1985), industrial accidents (e.g., Bowen, Castanias, and Daley 1983), mergers (Eckbo 1983), and dividend changes (Firth 1996).

end of 2002). We expect the absence of material weakness disclosures for such firms to be uncertainty-reducing and to result in a positive stock market impact.

To examine the relation between market assessments of information risk and material weakness disclosures we compute cumulative abnormal returns for firms disclosing material weaknesses, as well as for size- and performance-matched control samples of non-disclosing firms.<sup>3</sup> Significant cumulative abnormal returns are consistent with disclosure events conveying information to the market that affects the market valuation of the firm.

We conduct three additional analyses. First, we regress cumulative abnormal returns on disclosure factors expected to influence the market reaction to material weakness disclosures. Following Palmrose et al. (2004) we maintain the assumption that security prices derive from the present value of expected future dividends or alternatively, expected future earnings. In this structure, a decline in price absent a decline in expected earnings is attributable to an increase in uncertainty, or risk. This analysis focuses on firms disclosing material weaknesses, and allows us to determine how the magnitude of the market response varies with factors expected to exacerbate or mitigate the level of information uncertainty.

Second, we relate abnormal returns over the three-day window surrounding quarterly earnings announcements to the magnitude of unexpected earnings and an indicator variable for material weakness disclosure. We include in the second set of analyses firms disclosing a material weakness together with samples of size and performance-matched firms. The second set of analyses follows Cohen et al (2004) and allows us to determine the effect of material weakness disclosures on earnings informativeness as well as to contrast the informativeness of earnings for disclosing and non-disclosing firms both before and after the disclosure.

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<sup>3</sup>We discuss the selection of event dates in Section 4 for the sample of firms disclosing material weaknesses. Event dates for matched firms correspond to the event date of the experimental firm to which each control firm is matched.

Our third set of analyses is designed to evaluate whether the market response to the disclosures and differences in earnings response coefficients across disclosing and non-disclosing firms are attributable to greater information uncertainty. Due to data limitations we use abnormal trading volume as our measure information uncertainty and assess whether this measure of uncertainty is higher for disclosing firms relative to non-disclosing firms both before and after the disclosure.<sup>4</sup>

### 3.2 *Determinants of abnormal returns to material weakness disclosures*

To examine the relation between abnormal returns and factors expected to exacerbate or mitigate the market response to material weakness disclosures we estimate the following equation:

$$CAR_{i,t} = \alpha_{i,t} + \beta_1 RESTATE_{i,t} + \beta_2 RESIGN_{i,t} + \beta_3 AQ_{i,t} + \beta_4 EM_{i,t} + \beta_5 INDUSTRY_{i,t} + \beta_6 CONTEXT_{i,t} + \varepsilon_{i,t} \quad (1)$$

We obtain stock return data from CRSP and measure size and market-adjusted cumulative abnormal returns over the three day window surrounding the material weakness disclosure by subtracting from individual firm daily returns the concurrent equally-weighted market return for other firms in the same market capitalization decile.

#### *Restatement*

To ascertain whether firms have previously restated financial reports, we search Lexis for restatement announcements for each of our sample firms and set RESTATE equal to one if the firm has announced a restatement of previously filed financial statement within the past five years, and zero otherwise. Extreme stock market reactions to restatements are consistent with a downward revision in reporting credibility as well as a downward revision in expected future earnings (Hribar and Jenkins, 2004; Palmrose et al., 2004). In addition, material restatements may be construed as

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<sup>4</sup> As discussed in Section 6, due to current data limitations we are unable to use as our proxy for information uncertainty changes in analyst forecast dispersion (Palmrose et al., 2004 and Hribar and Jenkins, 2004). Specifically, I/B/E/S and First Call data are not yet sufficiently populated with one- and two-year ahead forecast estimates for a meaningful calculation of post-disclosure dispersion. We plan to evaluate forecast dispersion as the data become available.

prima facie evidence of previous weaknesses over financial reporting (Hamilton and Trautmann, 2002). In the context of material weakness disclosures, we expect the coefficient on RESTATE to be positive because disclosure of material weaknesses subsequent to a restatement reflects negatively on the company's ability to remedy reporting deficiencies.

#### *Auditor resignation*

We review current reports on Form 8K and set RESIGN equal to one if the firm concurrently announces the departure of its auditor during the three-day event window, and zero otherwise. Market responses to auditor resignations are generally negative, consistent with a decline in perceived financial statement credibility (Beneish et al 2005, Shu 2000). Reportable events exacerbate the market response to auditor resignations (Whisenant et al. 2003). Hence, we expect auditor resignations to be negatively associated with abnormal returns over the event window.

#### *Disclosure context*

Material weaknesses can be disclosed within a variety of different SEC filings depending on the timing of detection relative to periodic filing requirements. Material weaknesses conveyed on current reports (Forms 8K and 6K) and 1933 Act filings (primarily registration statements) are likely to be perceived as most negative because these reports are non-routine and highlight the material weakness. Similarly, weaknesses disclosed in the quarterly reports are more likely to convey a greater sense of importance and urgency than weaknesses disclosed within the ponderous text of the annual reporting package. Therefore, we include indicator variables for disclosure context. We set CURR equal to one if the disclosure is made on a current report, and zero otherwise; REG is set equal to one if the disclosure is made on an a 1933 Act registration statement, and zero otherwise; and Q is set equal to one if the disclosure is made on a quarterly report, and zero otherwise. We expect each of these variables to have a negative coefficient that reflects the marginal negative effect of context relative to the annual reporting package.

*Auditor quality*

High auditor quality can mitigate negative effects of increased information uncertainty, either because auditors improve the precision and credibility of financial disclosures (Francis et al. 2004; Palmrose et al. 2004 and Teoh and Wong 1993) or because well-capitalized audit firms provide potential indemnification against losses suffered due to potential misstatements (Bockus and Giger, 1998). Consistent with this literature we set audit quality equal to one when the audit firm is one of the big four and zero otherwise, and predict a positive coefficient.

*Earnings management*

Consistent the findings of Francis et al. (2004) we assume (1) that share prices derive from estimates of unmanaged earnings, (2) that discount rates, reflecting information uncertainty, are higher for firms with lower earnings quality, and (3) that high abnormal accruals are associated with lower earnings quality. Hence, we expect high accruals to be positively related to abnormal returns around the announcement of internal control weaknesses. This finding would be consistent with the findings of Cohen et al (2004) that the level of earnings management is informative about the quality of earnings both before and after SOX. Because high abnormal accruals enable investors to type a firm as having low reporting quality, we posit that the material weakness disclosure will be less of a surprise when previous abnormal accruals are high. Therefore, we expect the coefficient on EM to be positive. Our proxies for earnings management include several measures of performance-matched abnormal accruals (Kothari et al. 2005). We provide details of the estimation in Table 7.

### *3.3 Association between material weakness disclosures and market response to earnings announcements*

We examine whether the relation between earnings and returns at the time of earnings announcements differs for firms disclosing material weaknesses relative to controls both prior and subsequent to the revelation of material weaknesses by disclosing firms. We consider the two samples of control firms previously described: one matched on industry/time-period and total assets

and one matched on industry/time-period and lagged ROA. To the extent that the price impact of unexpected earnings depends on uncertainty about the firms' earnings quality, we predict that the earnings surprise for disclosing firms will be less informative and result in a lower price impact.

To conduct our tests we specify three alternative forms of the relation between earnings and returns. First, we consider a widely used linear model:

$$UR_{i,t} = a_1 + a_2 MWD + a_3 AFT + b_1 UE_{i,t} + b_2 MWD * UE_{i,t} + b_3 AFT * UE_{i,t} + b_4 AFT * MWD * UE_{i,t} + \varepsilon \quad (2)$$

where:

- $UR_{i,t}$  = Size-adjusted returns in the three-day window surrounding the announcement date of quarterly earnings.
- $UE_{i,t}$  = difference in earnings before extraordinary items (Compustat Quarterly Data Item #76).
- $MWD$  = 1 if the firm discloses a material weakness; 0 otherwise.
- $AFT$  = 1 if the earnings announcement occurs after the disclosure of a material weakness; 0 otherwise.

We estimate Eq. 2 using all available observations for MWD firms and their matches over the period 1994-2004, and compare MWD firms to each of the matched samples separately. For this equation, our expectations translate into  $b_2 < 0$  and  $b_4 < 0$  respectively.

Prior research has proposed a number of reasons for departures from linearity in the earnings returns relation: (i) the stock price responses may vary according to the magnitude of the earnings surprise, (ii) the response for positive and negative surprises may be asymmetric, and (iii) the response might differ over time and across firms (among others, see Abdel-khalik (1990), Freeman and Tse (1992), Das and Lev (1992), Hayn (1995), Beneish and Harvey (1998), Lipe et al. (1998), Freeman et al. (2005).) We thus consider two alternative specifications, a modified quadratic and a modified square-root, specified in Eq. 3 and Eq. 4, respectively.

$$UR_{i,t} = a_1 + a_2 MWD + a_3 AFT + b_1 UE_{i,t} + b_2 MWD * UE_{i,t} + b_3 AFT * UE_{i,t} + b_4 AFT * MWD * UE_{i,t} + c_1 * UE_{i,t} * |UE_{i,t}| + c_2 * MWD * UE_{i,t} * |UE_{i,t}| + c_3 * AFT * UE_{i,t} * |UE_{i,t}| + c_4 * AFT * MWD * UE_{i,t} * |UE_{i,t}| + \varepsilon \quad (3)$$

$$\begin{aligned}
& a_1 + a_2 MWD + a_3 AFT + b_1 UE_{i,t} + b_2 MWD * UE_{i,t} + b_3 AFT * UE_{i,t} \\
UR_{i,t} = & b_4 AFT * MWD * UE_{i,t} + c_1 * |UE_{i,t}|^{1/2} + c_2 * MWD * |UE_{i,t}|^{1/2} \\
& c_3 * AFT * |UE_{i,t}|^{1/2} + c_4 * AFT * MWD * |UE_{i,t}|^{1/2} + \varepsilon
\end{aligned} \tag{4}$$

For these two specifications, the earnings response coefficient derives from an earnings response function that obtains from taking the partial derivative with respect to UE. Thus, for the modified-quadratic specification, our prediction that unexpected earnings will be capitalized into returns at a lower rate for MWD firms in the pre-disclosure period is akin to testing whether

$$b_2 MWD + 2c_2 * MWD * |UE_{i,t}| = 0, \text{ where } MWD \text{ and } MWD * |UE_{i,t}| \text{ are evaluated at the mean.}$$

Likewise, our prediction that unexpected earnings will be capitalized into returns at a lower rate for MWD firms after the disclosure of the material weakness is akin to testing that

$$b_4 MWD * AFT + 2c_2 * MWD * AFT * |UE_{i,t}| = 0, \text{ where } MWD * AFT \text{ and } MWD * AFT * |UE_{i,t}|$$

are also evaluated at the mean.<sup>5</sup>

### 3.4 Evidence of changes in information uncertainty subsequent to material weakness disclosure

Diamond and Verrecchia (1991) and Kim and Verrecchia (1994, 2001) show that trading volume reflects differences among investors' expectation revisions due to information asymmetry between managers and investors. Lower information asymmetry should result in lower abnormal trading volume around information releases. Alternatively, abnormal trading volume can be interpreted as reflecting differences across investors in interpreting information releases (Harris and Raviv, 1993).

<sup>5</sup>Similarly, for the square root model specification, our prediction that unexpected earnings will be capitalized into returns at a lower rate for MWD firms in the pre-disclosure period is akin to testing that  $b_2 MWD - 0.5 c_2 * MWD * |UE|^{-1/2} = 0$  where MWD and  $MWD * |UE|^{-1/2}$  are evaluated at the mean, and our prediction that unexpected earnings will be capitalized into returns at a lower rate for MWD firms after the disclosure of the material weakness is akin to testing that  $b_4 MWD * AFT - 0.5 c_4 * MWD * AFT * |UE|^{-1/2} = 0$  where  $MWD * AFT$  and  $MWD * AFT * |UE|^{-1/2}$  are also evaluated at the mean.

Over longer horizons significant increases in the amount of available information can increase the liquidity in the stock, which is reflected by a structural increase in normal trading volume (Diamond and Verrecchia, 1991 and Kim and Verrecchia 1994, 2001). In addition, richer information environments can lower the cost of information acquisition for analysts and increase their supply, resulting in an observable increase in analyst following (Healy, Hutton and Palepu, 1999).

To more directly assess whether material weakness disclosures result in changes in the information environment we compute long-range cumulative abnormal volume for disclosing firms and their matched counterparts before and after material weakness disclosures and evaluate differences. We obtain trading volume from CRSP and compute two measures of abnormal volume:

$$AXTURN_{i,t} = TURN_{i,t} - MTURN_{i,t} \quad (5)$$

$$AABVOL_{i,t} = (VOL_{i,t} - NORMVOL_{i,t}) / NORMVOL_{i,t} \quad (6)$$

where:

$TURN_{i,t}$	= Daily turnover for firm <sub>i</sub> on day t
$MTURN$	= equal-weighted market turnover for day t
$VOL_{i,t}$	= volume for firm <sub>i</sub> on day t
$NORMVOL_{i,t}$	= average daily volume for firm <sub>i</sub> over 200 day period ending with the beginning of the sixty day interval ending ten days before the first day of the event window.

Eq. 5 calculates average excess volume (MXTURN) and is measured prior (subsequent) to disclosure over the sixty day interval ending (beginning) ten days before (after) the event window.

Eq. 7 calculates average abnormal volume (AABVOL) and is also measured prior (subsequent) to disclosure over the sixty day interval ending (beginning) ten days before (after) the event window.

Ideally, we would evaluate changes in volume reactions to known information events, such as earnings releases in order to assess whether a structural shift has occurred. However, due to the recency of the disclosures, a significant portion of our sample has no earnings release subsequent to disclosure. Therefore we measure shifts in volume between sixty day periods that do not overlap the

event window. The validity of inferences about structural shifts in volume rests on the assumption that these arbitrary sixty day intervals contain a distribution of information events that is not correlated with MWD disclosure or non-disclosure. Hence the results must be interpreted with caution. We will limit our analysis to volume reactions around earnings releases as subsequent earnings releases occur in the first quarter of 2005.

As our final test of changes in the information environment we evaluate changes in analyst coverage between MWD and control firms subsequent to disclosure. We collect analyst forecasts from I/B/E/S and measure changes in analyst coverage for MWD firms and the control sample both in absolute terms (increase in number of analysts covering the stock) and as a percentage of coverage prior to the disclosure. Because analyst coverage is increasing in the richness of the information environment, we expect analyst coverage to decrease (increase) for MWD (control) firms.

#### **4. Data collection and sample descriptive statistics**

Material weakness disclosures are identified by making a full-text search of calendar-year 2004. We match documents containing the phrases “material weakness” and “internal control” within the same paragraph and matching the results to those filings listed by Compliance Week.<sup>6</sup> After culling observations comprising subsequent disclosures for the same firm, and filings containing only generic references to Sarbanes-Oxley reporting requirements, our sample consists of 523 unique firms. Of the 523 firms making disclosures, 187 firms are either not traded or are traded on the pink sheets. Panel A of Table 1 describes the 336 firms with available stock return data by month of filing and form type. The number of material weakness disclosures is highest in November, consistent with the third quarterly report (Form 10-Q) filing deadline for calendar year firms. The majority of disclosures are made in conjunction with 1934 Act Form 10-Q filings (162) and annual reports (78). However, current report disclosures (Forms 8-K and 6-K) comprise 63 filings and forms related to the 1933 Act (primarily registration statements) comprise 33 filings.

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<sup>6</sup> [www.complianceweek.com](http://www.complianceweek.com)

Stock returns and market capitalization are obtained from CRSP. Panel B of Table 1 shows that of the 336 firms for which stock returns are available on CRSP, 60% are traded on the National Market and 28% are traded on the New York Stock Exchange (NYSE). The remaining 12% are traded on the American Stock Exchange (ASE). The average market capitalization ranges from \$105 million to \$6,286 million and is largest for the NYSE, consistent with NYSE listing requirements.

Panel C of Table 1 shows the number of disclosures by industry. Industry groups with the largest representation in the sample include Durable manufacturers (23%) Computers (17%), Other (14%), Services (11%), and Retail (10%). Supplemental analysis, not tabulated, shows that durable manufacturers, service firms, and firms in the computer industry are disproportionately represented in the sample relative to the COMPUSTAT population.

Table 2, Panel A compares our sample firms (MWD) to the COMPUSTAT population in the year prior to the fiscal year preceding the disclosure of a material weakness (fiscal 2002). Relying on median comparisons, MWD firms are larger (in terms of assets, sales and market value of equity), less profitable (lower ROA and higher frequency of losses), and they experience slower sales growth. MWD firms have higher accruals (less negative) and are more likely to have reported income-decreasing special items. Panel B reports a comparison to a sample of control firms matched on industry, time, and total assets in 2002. Relative to size-matched controls, MWD firms are less profitable and more levered. They have higher accruals (less negative) and are more likely to have reported income-decreasing special items.

Finally, Panel C reports a comparison to a sample of control firms matched on industry, time (fiscal 2002), and lagged ROA. The comparison reveals that MWD firms are larger (in terms of assets and market value of equity), and that the matching on lagged ROA is partially successful (the mean ROA does not differ across samples but the median ROA of sample firms is lower). Of particular interest, mean and median accruals (total and current) do not differ across samples. This is

comforting as we subsequently compute abnormal accruals using the performance-matching procedure documented by Kothari et al. (2005).

## 5. Results

### 5.1 *Market reaction to disclosure of material weaknesses*

Table 3 reports statistics describing the market impact of disclosure of material weaknesses. In Panel A, the evidence indicates that material weakness disclosures had an adverse effect on firms' stock prices. On average, for the full sample, the three-day size-adjusted return of -1.50% is distinguishable from zero at the 10% level.<sup>7</sup> In addition, we find that material weaknesses first disclosed on current reports (Forms 8K and 6K) and 1933 Act filings (primarily registration statements) are perceived as most negative, consistent with these reports being non-routine and filed to highlight the material weakness. The results both uncontaminated and uncontaminated/winsorized samples reveal a similar pattern with a lower price impact (-0.76% and -0.77%).

We assess whether information transfers to matched firms in the same industry in Panel B. The results suggest that size-matched firms experience a significantly positive average stock price impact of 0.67% (p-value=0.044), but that price impact for performance-matched firms is not distinguishable from zero at conventional levels (mean 0.70%, p-value=0.104). Nevertheless, because the disclosures we study do not have a predictable pattern, it is possible that these weak evidence of information transfer stems from the fact that the absence of early disclosure does not mean absence of material weakness.

In Panel C, the evidence suggests that the impact of the material weakness disclosure is less adverse for firms audited by a Big Four auditor, and for firms with larger market capitalization. This

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<sup>7</sup> Because the 336 event dates occur on 137 different calendar days, there is clustering in event time that can result in a violation of independence across days. Indeed, the mean number of announcements per calendar day is approximately 2.4 and the median is 1. The positive skewness is in large part due to three calendar days in which there are 36, 22, and 11 firms disclosing material weaknesses. To address this issue, we create an equally weighted portfolio for each calendar day that contains two or more announcing firms. The mean three-day size-adjusted return over 137 observations is -2.41% (p-value .006) and the median is -1.40%. These results suggest that event day clustering does not affect the results.

evidence is consistent with such firm characteristics mitigating the uncertainty about the quality of financial reporting associated with the disclosure of a material weakness.

## 5.2 *Determinants of abnormal returns to material weakness disclosures*

Table 4 presents statistics from our regressions of cumulative abnormal returns on factors thought to exacerbate or mitigate the market response to material weakness disclosures. We find that the coefficient on prior restatements is insignificant, providing no evidence that restatements exacerbate negative market responses to material weakness disclosures. In contrast, the concurrent resignation of the firms' auditor has a significantly negative effect (coefficient=-0.029, t-statistic=-2.01). This result is consistent with prior research documenting an incremental negative response to auditor resignations of reportable events (Whisenant et al. 2003). As predicted, the coefficient on audit quality is significantly positive, suggesting that the engagement of a large audit firm mitigates the negative price impact of material weakness disclosures (coefficient=0.014, t-statistic=2.69). We interpret this result as consistent with large audit firms providing higher levels of assurance for a given level of firm reporting quality.<sup>8</sup>

Also as predicted, prior earnings management is positively and significantly associated with the market response to material weakness disclosures (coefficient=0.04, t-statistic=2.01). This finding is consistent with the notion that disclosure of a material weakness is less informative when poor earnings quality has already been conveyed by the presence of high abnormal accruals. Results show that the context of the disclosure has a marginally significant effect on the market reaction to the material weakness disclosure. Specifically, current reports and filings under the 1933 Act are associated with the largest negative response (coefficient=-0.013, t-statistic=-1.89; coefficient=-

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<sup>8</sup> Firm reporting quality is incorporated in the regression by our inclusion of EM. In supplemental analysis (not tabulated) we include firm size as an additional indicator of firm reporting quality and find that our audit quality variable is significantly positive at greater than the 0.05 level. Moreover, inferences on other variables are unchanged.

0.014, t-statistic=-1.70), consistent with weaknesses being perceived as more salient when reported on non-routine reports relative to periodic filings.

Three of the eleven industry controls are significantly negative: textiles, pharmaceuticals and services (coefficients of -0.028, -0.026, and -0.018; t-statistics of -2.12, -2.10 and -2.13). The significantly negative effects in the pharmaceutical and services categories are consistent with high litigation in these industries (Kasznik and Lev 1995).

Overall, our model is significant and has reasonable explanatory power ( $R^2 = 5.9\%$ ). As well the intercept is indistinguishable from zero. In order to assess the effect of potentially influential observations, we estimate the model after transforming all continuous variables to ranks and present the results in the two left-most columns of Table 5. Although the results weaken for most variables, consistent with higher data granularity, the results are qualitatively similar indicating that outliers have little effect on our results.

Teoh and Wong (1993) shows that the clients of large auditors are larger than clients of small auditors. Despite our use of size-adjusted abnormal returns, the coefficient on audit quality may be overstated if magnitude of the market response to disclosure is systematically related to firm size. To examine this possibility we include size as a control variable in our regressions and find that it is not significant and that our inferences about the other independent variables are unchanged.

### *5.3 Association between material weakness disclosures and market response to earnings announcements*

We present the results of our estimations in Table 5. In Panel A, the linear model estimated by pooling the time-series for MWD firms and their ROA matches reveals that MWD firms have significantly a lower ERC than their controls: the coefficient on  $UE_{i,t} * MWD$  is significantly negative (-.0464) suggesting that while ROA matches have a pooled ERC of .1049, MWD firms have a pooled ERC of .0585. This suggests that earnings surprise for firms with material weakness disclosures are less persistent and have a lower price impact. The coefficient of the

$UE_{i,t} * MWD * AFT$  interaction is not significant, and we cannot reject the hypothesis that unexpected earnings are at the same rate for earnings announcements before and after the disclosure of a material weakness.<sup>9</sup>

When we estimate the linear model by pooling the time-series for MWD firms and their total asset matches we find that MWD firms have significantly a lower ERC than their controls. However, in this estimation, the coefficient of the  $UE_{i,t} * MWD * AFT$  interaction is negative and significant, suggesting that surprises arising from announcements after the disclosure of a material weakness are capitalized at a lower rate.

In Panel B, the estimation of the modified quadratic specification yields mixed results. We are only able to reject the hypotheses of equality in the estimation with ROA matches, and only for the comparison suggesting that the price response to earnings surprises for MWD firms is lower (F-stat p-value=0.0631).

In Panel C, both estimations with the modified square root specification suggest that the price response to earnings surprises for MWD firms is lower than that of their matches. In addition, the estimation with assets matches reveals that MWD surprises after the disclosure of the material weakness have a lower price impact (F-stat p-value=0.0298).

In sum, we view the evidence as suggesting that MWD earnings surprises have lower price impacts. We view this finding as consistent with market participants facing more uncertainty about the quality of MWD firms' earnings.

#### *5.4 Evidence of changes in information uncertainty subsequent to disclosure*

Table 6 presents the results of tests evaluating whether significant changes occurred in the information environment subsequent to disclosures of material weaknesses. Consistent with the

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<sup>9</sup> We also considered in the analysis two additional variables: the spread in yields between Moody's Baa and Aaa rated bonds to captures time-series variation in the expected risk premium (Fama and French (1989)), and the ratio of market to book value as a cross-sectional proxy for earnings persistence (Collins and Kothari (1989)). Neither variable enhanced the specification of the model.

higher accruals of disclosing firms signaling poor earnings quality, Panel A of Table 6 shows that average turnover (ATURN) and excess turnover (AXTURN) is higher for disclosing firms prior to disclosure of their weaknesses. Subsequent to disclosure all measures of trading volume increase for both groups of firms, although the increase in excess turnover for matched sample firms is not significant. These results suggest that the level of information uncertainty increased for all firms subsequent to disclosure, which is inconsistent with the disclosures creating a richer information environment. However, the increases in AXTURN and AABVOL were significantly larger for disclosing firms compared to non-disclosing firms, which is consistent with disclosing firms having higher perceived levels of information risk subsequent to disclosure.

Overall, our volume tests provide weak evidence that disclosure increased the level of information uncertainty for disclosing firms. Our findings are inconsistent with a decline in information uncertainty for non-disclosing firms. However, these results must be interpreted with caution as our interval tests cannot rule out potential confounds that may be correlated with MWD. For example, MWD firms may have a different number of disclosure events subsequent to disclosure than the control group. As additional data become available we will structure more powerful tests that help to eliminate competing explanations, including an analysis of volume responses to earnings releases and of changes in analyst forecast dispersion and costs of capital (Hribar and Jones, 2004).

Panel B of table 6 presents changes in analyst coverage subsequent to disclosure. The change in analyst coverage of disclosing firms is negative, but not significant. Analyst coverage for non-disclosing firms is positive and marginally significant. These tests provide weak support for the hypothesis that the level of information uncertainty decreased for non-disclosing firms.

## **6. Additional analyses**

### *6.1 Evidence of earnings management in MWD firms prior to disclosure*

Our maintained hypothesis that prior earnings management conveys a meaningful signal about low earnings quality suggests that earnings management and material weakness disclosures

should be positively related. Accordingly, we should find that abnormal accruals are higher for disclosing firms than non-disclosing firms; we test this proposition and present the results in Table 7.

In Panel A of Table 7, we report the means for four alternative estimates of performance-matched abnormal accruals for the years 1998 through 2003, as well as the average of the aggregate over all the years. A striking feature of the evidence is that average raw performance-matched accruals (Accruals for MWD firm less Accruals for its match) is positive in all years as well as in the aggregate. The mean raw performance-matched accruals in years 1998, 1999, and 2000 (2.84, 3.05 and 4.58 percent of total assets) are significantly positive, whereas the corresponding means in 2001, 2002, 2003 (2.00, 2.03 and 1.42 percent of total assets) are not distinguishable from zero. Indeed, the evidence suggests that MWD firms have engaged in income-increasing earnings management in 1998-2000, but not in 2001-2003. The pattern of increasing performance-matched total accruals is consistent with the evidence in Cohen et al. (2004) that earnings management intensifies in the late 1990s and declines with regulatory intervention associated with the passage of SOX in 2001-2002.

The results for the sum of performance matched raw accruals across all six years are positive and significant (mean 27.28 percent, p-value=0.062), and 63.4% of the observations comprising this average are positive. We interpret the evidence as indicating that, on average, MWD firms engaged in income-increasing earnings management from 1998 to 2000, and that these discretionary actions have not reversed in 2001-2003. For the remaining measures of abnormal total accruals, we observe a similar pattern although we only reject the hypothesis that the abnormal accruals are distinct from zero on average for the sum across all six years in the analysis.

Table 7, Panels B and C present similar statistics for current accruals and components of current accruals. In Panel B, the evidence suggests a similar pattern of higher earnings management in the early years analyzed, and an absence of reversals in the aggregate across all years. Panel C also reveals a similar pattern for performance-matched changes in receivables and inventory. In sum, the accruals evidence suggests that firms that disclose material weaknesses are more likely to have

engaged in income-increasing earnings management prior to disclosure. This supports the notion that material weakness disclosures are positively related to low earnings quality associated with prior earnings management. Taken together with the finding that the market response to material weakness disclosures is negatively related to the extent of prior earnings management, our results suggest that material weakness disclosures convey less, but incrementally significant information about poor earnings quality, relative to high abnormal accruals alone.

## **7. Summary and conclusions**

We find that investors respond to disclosures about financial reporting quality in ways consistent with such disclosures resolving information uncertainty. Specifically, firms making mandated disclosures of material weaknesses experience negative abnormal returns in response to the disclosure. Disclosing firms also experience higher abnormal trading volume subsequent to disclosure. Each of these results is consistent with material weakness disclosures resulting in an increase information uncertainty subsequent to disclosure.

Material weakness disclosures also have an effect on non-disclosing firms consistent with predictions of information-transfer models. Performance- and size-matched non-disclosing firms experience significantly positive market reactions to news conveyed by disclosing firms. However, non-disclosing firms also experience a significant increase abnormal trading volume subsequent to disclosure.

We evaluate determinants of abnormal returns to material weakness disclosures and find evidence that audit quality mitigates negative responses to disclosure. In addition, negative market responses are dampened by evidence of earnings management. Additional analysis provides evidence that this counter-intuitive result results from a positive association between earnings management prior to the material weakness disclosure. This result suggests that material weakness disclosures have less information content when low financial reporting quality has already been conveyed to the market by earnings management.

We find that auditor turnover exacerbates the response to material weakness disclosures, consistent with auditor turnover conveying incrementally negative information uncertainty with respect to financial reporting. In addition, we find that membership in high-risk industry groups exacerbates negative market response to material weakness disclosures. Finally, we find that reporting context is an important determinant of market reaction to the disclosures: market reaction is more negative when weaknesses are conveyed on current reports or registration statements, relative to routine filings.

Our study contributes to three important streams of research, including the effect of Sarbanes-Oxley on the information environment, the effect of the information uncertainty on the pricing of equity securities and the effect of auditor attestation on the credibility of reporting. Our study has several important limitations. First, data limitations prevent us from implementing preferred measures of information uncertainty. Hence we cannot rule out certain competing explanations for our results. We plan to implement these measures as additional data become available in the first quarter of 2005. Second, the effect of Sarbanes-Oxley on the information environment will continue to evolve as specific provisions are implemented. This creates significant opportunities for additional research.

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**Figure 1**  
**The History of Sarbanes-Oxley**

<b>The Sarbanes-Oxley Act (“SOX”)</b>	<b>July 30, 2002</b> President Bush signs SOX into law.	SOX revolutionizes the rules of corporate governance, disclosure and financial reporting for all SEC registrants.
<b>Sections 101 &amp; 103 – Public Company Accounting Oversight Board and Auditing standards</b>	Section 101 of SOX creates the Public Company Accounting Oversight Board (“PCAOB”).	Section 103 charges the PCAOB with establishing auditing and related attestation, quality control, ethics, and independence standards and rules to be used by registered public accounting firms in the preparation and issuance of the audit report.
<b>Section 906 – White collar crime penalty, corporate responsibility for financial reports</b>	Section 906, effective immediately upon passage, is the one of three sections of SOX requiring certification.	Under 906, management must certify that 10Ks and 10Qs are fairly stated and are in compliance with the Securities and Exchange Act of 1934. Knowing and/or willful wrongdoing is subject to fines and imprisonment.
<b>Section 302 – Corporate responsibility for financial reports</b>	<b>August 29, 2002</b> Issued by the SEC on August 27, 2002, the rule becomes effective on August 29, 2002.	Executives must certify that: <ul style="list-style-type: none"> <li>• they reviewed the report,</li> <li>• the report contains no misrepresentations,</li> <li>• the financial information is fairly presented,</li> <li>• they have reported any internal control weaknesses (including fraud) to the audit committee, and</li> <li>• they have identified material changes in internal controls.</li> </ul>
<b>Auditing Standard No. 2 – An Audit of Internal Control over Financial Reporting Performed in Conjunction with an Audit of Financial Statements</b>	<b>June 17, 2004</b> Issued by the PCAOB on March 9, 2004, the SEC approves Audit Standard No. 2 on June 17, 2004.	Auditing Standard No. 2, effective for audits of internal control over financial reporting required by Section 404(b), requires that the auditor’s report on internal control over financial reporting include the auditor’s opinion on management’s assessment of the effectiveness of internal control over financial reporting as well as the auditor’s independent assessment of the effectiveness of the company’s internal control over financial reporting.
<b>Section 404 – Management assessment of internal controls</b>	<b>November 15, 2004</b> The SEC implements the rule on May 27, 2003 and extends the compliance dates on February 24, 2004.	Under 404(a), management of the company must supply an “internal control report” that takes responsibility for adequate internal controls and assesses the effectiveness of the controls over financial reporting. Under 404(b), the company’s auditor must attest to, and report on, management’s assessment of internal controls. Companies have 90 days from the end of their fiscal year to comply. November 15, 2004 marks the start for companies with market capitalization greater than \$75 million. July 15, 2005 marks the start for companies with less than \$75 million market capitalization.

**Table 1**  
**Full sample of material weakness disclosures**

**Panel A – Month of report and SEC form type**

<i>Month</i>	<i>Quarterly Report</i>	<i>Annual Report</i>	<i>Current Report</i>	<i>1933 Act Reports</i>	<i>N</i>	<i>Percent</i>
January	3	2	4	5	14	4.17
February	2	1	4	1	8	2.38
March	1	11	4	2	18	5.36
April	1	9	3	1	14	4.17
May	13	4	2	3	22	6.55
June	3	10	6	5	24	7.14
July	5	5	5	2	17	5.06
August	29	1	8	2	40	11.90
September	5	11	4	3	23	6.85
October	10	7	10	4	31	9.23
November	78	2	7	3	90	26.79
December	12	15	6	2	35	10.42
<i>N</i>	162	78	63	33	336	100.00
<i>Percent</i>	48.21	23.21	18.75	9.82	100.00	

**Panel B – Exchange listing and market capitalization at disclosure date**

<i>Exchange</i>	<i>N</i>	<i>Market Capitalization (in thousands of dollars)</i>				
		<i>Mean</i>	<i>Median</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Std. Dev.</i>
NASDAQ	198	448,696	171,995	1,984	9,236,204	983,061
NYSE	95	6,286,027	991,728	26,454	243,213,117	26,414,153
ASE	43	104,743	38,373	4,027	899,268	164,395

**Table 1 (concluded)**  
**Full sample of material weakness disclosures**

**Panel C – Industry composition of sample**

<i>Industry</i>	<i>SIC codes</i>	<i>N</i>	<i>Percent of firms in the sample</i>	<i>Percent of firms in the Compustat population</i>
Mining and construction	1000-1999, except 1300-1399	7	2.08	2.39
Food	2000-2111	4	1.19	1.80
Textiles, printing, and publishing	2200-2799	11	3.27	2.97
Chemicals	2800-2824, and 2840-2899	9	2.68	1.48
Pharmaceuticals	2830-2836	13	3.87	5.06
Extractive industries	2900-2999, and 1300-1399	10	2.98	2.97
Durable manufacturers	3000-3999, except 3570-3579, 3670-3679	78	23.21	15.69
Computers	7370-7379, 3570-3579, and 3670-3679	59	17.56	12.06
Transportation	4000-4899	26	7.74	5.54
Retail	5000-5999	35	10.42	7.72
Services	7000-8999, except 7370-7379	38	11.31	8.79
Other		46	13.69	33.53
		336	100.00	100.00

Table 2

Comparisons of sample firms to Compustat population and size- and performance-matched control samples

## Panel A – Sample firms compared to Compustat population

	<i>MWD Firms</i>				<i>Performance-matched sample</i>				<i>Difference</i>	
	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>
<i>Assets</i>	400	8,129	74,356	238	14738	4,049	32,488	151		+
<i>Sales</i>	400	2,048	8,864	138	14738	1,344	6,915	89		+
<i>MV of Equity</i>	384	1,653	10,654	107	13123	1,442	8,216	73		+
<i>Return on Assets</i>	400	-0.119	0.360	-0.008	14738	-0.091	0.335	0.009		-
<i>Current Ratio</i>	358	2.401	2.748	1.626	11915	2.530	4.172	1.620		
<i>Leverage</i>	360	0.559	0.648	0.485	12033	0.578	0.863	0.476		
<i>Sales Growth</i>	400	0.135	1.001	0.003	14738	0.303	2.672	0.044		
<i>Special Items</i>	398	-0.115	0.474	-0.003	14478	-0.098	1.947	0.000		-
<i>Loss</i>	400	0.535	0.499	1.000	14738	0.426	0.495	0.000	+	+
<i>Total accruals</i>	400	-0.129	0.214	-0.060	14738	-0.179	0.273	-0.073	+	+
<i>Current accruals</i>	400	-0.047	0.151	-0.006	14738	-0.078	0.200	-0.010	+	+

+ (-) Characteristic of MWD sample significantly higher (lower) than that of control at the 5% level for a two-tailed test.

++ (--) Characteristic of MWD sample significantly higher (lower) than that of control at the 10% level for a two-tailed test.

Table 2 (continued)

Comparisons of sample firms to Compustat population and size- and performance-matched control samples

## Panel B – Sample firms compared to size-matched control sample

	<i>MWD Firms</i>				<i>Performance-matched sample</i>				<i>Difference</i>	
	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>
<i>Assets</i>	400	8,129	74,356	238	400	7,023	60,235	246		
<i>Sales</i>	400	2,048	8,864	138	400	1,558	6,237	161		
<i>MV of Equity</i>	384	1,653	10,654	107	369	2,547	12,033	121		
<i>Return on Assets</i>	400	-0.119	0.360	-0.008	400	-0.069	0.254	0.008	-	-
<i>Current Ratio</i>	358	2.401	2.748	1.626	350	2.431	2.135	1.821		--
<i>Leverage</i>	360	0.559	0.648	0.485	348	0.468	0.337	0.413	+	+
<i>Sales Growth</i>	400	0.135	1.001	0.003	400	0.325	4.903	0.012		
<i>Special Items</i>	398	-0.115	0.474	-0.003	400	-0.184	2.212	0.000		-
<i>Loss</i>	400	0.535	0.499	1.000	400	0.448	0.498	0.000	+	+
<i>Total accruals</i>	400	-0.129	0.214	-0.060	400	-0.158	0.241	-0.065	++	
<i>Current accruals</i>	400	-0.047	0.151	-0.006	400	-0.069	0.174	-0.010	+	

+ (-) Characteristic of MWD sample significantly higher (lower) than that of control at the 5% level for a two-tailed test.

++ (--) Characteristic of MWD sample significantly higher (lower) than that of control at the 10% level for a two-tailed test.

Table 2 (concluded)

Comparisons of sample firms to Compustat population and size- and performance-matched control samples

## Panel C – Sample firms compared to performance-matched control sample

	<i>MWD Firms</i>				<i>Performance-matched sample</i>				<i>Difference</i>	
	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>
<i>Assets</i>	400	8,129	74,356	238	400	3,389	14,502	156		+
<i>Sales</i>	400	2,048	8,864	138	400	1,854	8,963	113		
<i>MV of Equity</i>	384	1,653	10,654	107	369	2,129	11,828	73		+
<i>Return on Assets</i>	400	-0.119	0.36	-0.008	400	-0.122	0.367	0.005		--
<i>Current Ratio</i>	358	2.401	2.748	1.626	357	2.407	2.752	1.686		
<i>Leverage</i>	360	0.559	0.648	0.485	353	0.646	1.127	0.473		
<i>Sales Growth</i>	400	0.135	1.001	0.003	400	0.188	2.123	0.03		
<i>Special Items</i>	398	-0.115	0.474	-0.003	394	-0.329	2.714	0		-
<i>Loss</i>	400	0.535	0.499	1	400	0.478	0.5	0		
<i>Total accruals</i>	400	-0.129	0.214	-0.06	400	-0.15	0.239	-0.063		
<i>Current accruals</i>	400	-0.047	0.151	-0.006	400	-0.057	0.172	-0.006		

+ (-) Characteristic of MWD sample significantly higher (lower) than that of control at the 5% level for a two-tailed test.

++ (--) Characteristic of MWD sample significantly higher (lower) than that of control at the 10% level for a two-tailed test.

**Variable definitions (all data are from 2002):**

Assets = Compustat Data Item #6. Sales = Compustat Data Item #12. MV of equity = the product of Compustat Data Item #24 and Compustat Data Item #25. Return on assets= Income before ext. items (Compustat Data Item #18) divided by Assets. Current ratio = current Assets (Compustat Data Item #4) divided by current liabilities (Compustat Data Item #5). Leverage = current liabilities (Compustat Data Item #5) plus long-term debt (Compustat data item #9) divided by assets. Sales growth = percentage change in sales. Special items = Compustat Data Item #17. Loss = 1 if income before ext. items is negative; 0 otherwise. Total accruals =  $-(\Delta AR[\#302] + \Delta INV[\#303] + \Delta AP[\#304] + \Delta TAX[\#305] + \Delta OTH[\#307] + DEP[\#125]) / \text{Total Assets}_{i-1}[\#6]$ , and Current accruals = Total accruals +  $DEP[\#125] / \text{total assets}_{i-1}[\#6]$ .

**Table 3**

**Size-adjusted cumulative abnormal returns calculated over the three-day window surrounding the disclosure date**

**Panel A – Cumulative abnormal returns by report type**

<i>Report Type</i>	<i>Full Sample</i>			<i>Uncontaminated Sample</i>			<i>Uncontaminated and winsorized at 1% and 99%</i>		
	<i>N</i>	<i>Mean</i>	<i>p-value</i>	<i>N</i>	<i>Mean</i>	<i>p-value</i>	<i>N</i>	<i>Mean</i>	<i>p-value</i>
Current Report	62	<b>-2.40%</b>	0.000	62	<b>-1.33%</b>	0.009	62	<b>-1.32%</b>	0.009
Annual Report	78	-0.78%	0.424	76	-0.21%	0.618	76	-0.23%	0.570
Quarterly Report	162	<b>-1.29%</b>	0.014	156	<b>-0.71%</b>	0.005	156	<b>-0.72%</b>	0.004
1933 Act Report	33	-1.50%	0.095	33	<b>-0.012%</b>	0.088	33	<b>-1.17%</b>	0.089
All Reports	336	<b>-1.41%</b>	0.000	327	<b>-0.76%</b>	0.000	327	<b>-0.77%</b>	0.000

**Panel B – Cumulative abnormal returns for size-matched and performance-match samples**

<i>Report Type</i>	<i>MWD Sample</i>			<i>Size-matched sample</i>			<i>Performance-matched sample</i>		
	<i>N</i>	<i>Mean</i>	<i>p-value</i>	<i>N</i>	<i>Mean</i>	<i>p-value</i>	<i>N</i>	<i>Mean</i>	<i>p-value</i>
Current Report	62	<b>-2.40%</b>	0.000	60	<b>1.83%</b>	0.016	48	0.12%	0.879
Annual Report	78	-0.61%	0.464	70	0.76%	0.134	62	0.87%	0.240
Quarterly Report	162	<b>-1.29%</b>	0.014	141	0.40%	0.452	134	0.62%	0.295
1933 Act Report	33	-1.50%	0.095	34	-0.40%	0.742	30	1.68%	0.457
All Reports	336	<b>-1.41%</b>	0.000	305	<b>0.67%</b>	0.044	274	0.70%	0.104

**Table 3 (concluded)**

**Size-adjusted cumulative abnormal returns calculated over the three-day window surrounding the disclosure date**

**Panel C – Cumulative abnormal returns by auditor type and firm size**

	<i>Full sample</i>			<i>Uncontaminated sample</i>			<i>Uncontaminated and winsorized at 1% and 99%</i>		
	<i>N</i>	<i>Mean</i>	<i>p-value</i>	<i>N</i>	<i>Mean</i>	<i>p-value</i>	<i>N</i>	<i>Mean</i>	<i>p-value</i>
<b><i>MWD firms:</i></b>									
Big-Four auditor	261	-0.49%	0.021	254	-0.50%	0.017	254	-0.51%	0.012
Small auditor	75	-1.55%	0.001	73	-1.66%	0.001	73	-1.66%	0.001
<i>Difference</i>		<b>1.06%</b>	<b>**</b>		<b>1.16%</b>	<b>**</b>		<b>1.15%</b>	<b>**</b>
Top 50% - size	168	-0.50%	0.024	164	-0.52%	0.201	164	-0.52%	0.020
Bottom 50% - size	168	-0.94%	0.003	163	-1.00%	0.002	163	-1.02%	0.001
<i>Difference</i>		<b>0.44%</b>	<b>*</b>		<b>0.48%</b>	<b>*</b>		<b>0.50%</b>	<b>*</b>

\*, \*\* denote t-test for differences of means significant at the 10% and 5% level, respectively.

**Table 4**  
**Summary statistics for cumulative abnormal returns regressions**

$$CAR_{i,t} = \alpha_{i,t} + \beta_1 RESTATE_{i,t} + \beta_2 RESIGN_{i,t} + \beta_3 AQ_{i,t} + \beta_4 EM_{i,t} + \beta_5 INDUSTRY_{i,t} + \beta_6 CONTEXT_{i,t} + \varepsilon_{i,t}$$

	<i>Pred.</i>	<i>Coef.</i>	<i>t-statistic</i>	<i>Ranks</i>	
				<i>Coef.</i>	<i>t-statistic</i>
<i>Intercept</i>	—	0.001	0.18	<b>4.618</b>	7.47**
<i>RESTATE</i>	—	-0.005	-1.01	0.001	0.00
<i>RESIGN</i>	—	<b>-0.029</b>	-2.01**	-1.102	-1.07
<i>AQ</i>	+	<b>0.014</b>	2.69***	<b>0.745</b>	1.95**
<i>EM</i>	+	<b>0.004</b>	2.01**	0.087	1.59
<i>CONTEXT=CURR</i>	—	<b>-0.013</b>	-1.89*	<b>-0.918</b>	-1.86*
<i>CONTEXT=REG</i>	—	<b>-0.014</b>	-1.70*	-0.502	-0.83
<i>CONTEXT=10Q</i>	—	-0.008	-1.48	-0.561	-1.39
<i>INDUSTRY=MINING</i>	?	-0.006	-0.36	-0.843	-0.74
<i>INDUSTRY=FOOD</i>	?	0.013	0.68	1.770	1.20
<i>INDUSTRY=TEXTILES</i>	?	<b>-0.028</b>	-2.12**	<b>-1.928</b>	-2.05**
<i>INDUSTRY=CHEMICALS</i>	?	-0.025	-1.48	-1.494	-1.23
<i>INDUSTRY=PHARM</i>	?	<b>-0.026</b>	-2.10**	<b>-2.344</b>	-2.64***
<i>INDUSTRY=EXTRACTIVE</i>	?	-0.002	-0.12	0.220	0.16
<i>INDUSTRY=DURABLE</i>	?	-0.006	-0.85	-0.525	-1.07
<i>INDUSTRY=COMPUTERS</i>	?	0.014	1.45	0.881	1.31
<i>INDUSTRY=TRANSPORT</i>	?	0.002	0.20	-0.086	-0.12
<i>INDUSTRY=RETAIL</i>	?	-0.002	-0.25	0.020	0.03
<i>INDUSTRY=SERVICES</i>	?	<b>-0.018</b>	-2.13**	<b>-1.370</b>	-2.23**
Adj. R <sup>2</sup>		0.059%		0.040%	

t-statistics are in parenthesis.

\*, \*\*, \*\*\* denote significance at the 10%, 5% and 1% level, respectively (two-tailed test).

Results are qualitatively similar when size, measured as the log of market value of equity, is included in the regressions.

**Table 5**

**The earnings-return relation with linear, modified quadratic, and modified square root specifications over the period of 1994-2004**

**Panel A – Linear Model**

$$UR_{i,t} = a_1 + a_2 MWD + a_3 AFT + b_1 UE_{i,t} + b_2 MWD * UE_{i,t} + b_3 AFT * UE_{i,t} + b_4 AFT * MWD * UE_{i,t} + \varepsilon$$

	<i>Estimated with performance matches</i>			<i>Estimated with size matches</i>		
	<i>Coefficient</i>	<i>p-value</i>		<i>Coefficient</i>	<i>p-value</i>	
<i>Intercept</i>	<b>0.005</b>	(0.000)	***	<b>0.005</b>	(0.000)	***
<i>MWD</i>	-0.001	(0.404)		-0.001	(0.595)	
<i>AFT</i>	0.001	(0.772)		-0.002	(0.577)	
<i>UE</i>	<b>0.105</b>	(0.000)	***	<b>0.099</b>	(0.000)	***
<i>UE*MWD</i>	<b>-0.046</b>	(0.001)	***	<b>-0.040</b>	(0.007)	***
<i>UE*AFT</i>	-0.027	(0.565)		<b>0.190</b>	(0.017)	**
<i>UE*MWD*AFT</i>	0.041	(0.488)		<b>-0.176</b>	(0.043)	**
<i>Adjusted R<sup>2</sup></i>	0.58%					
<i>F-value</i>	22.16					
<i>p-value</i>	(0.001)					

\*, \*\*, \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.  
All estimations have 21,317 firm-quarter observations.

**Variable Definitions:**

- UR<sub>i,t</sub>* = size-adjusted returns in the three-day window surrounding the announcement date of quarterly earnings.  
*UE<sub>i,t</sub>* = difference in earnings before extraordinary items (Compustat Quarterly Data Item #76).  
*MWD* = 1 if the firm discloses a material weakness; 0 otherwise.  
*AFT* = 1 if the earnings announcement occurs after the disclose of a material weakness; 0 otherwise.

**Table 5 (continued)**

**The earnings-return relation with linear, modified quadratic, and modified square root specifications over the period of 1994-2004**

**Panel B – Modified Quadratic**

$$\begin{aligned}
 & a_1 + a_2 MWD + a_3 AFT + b_1 UE_{i,t} + b_2 MWD * UE_{i,t} + b_3 AFT * UE_{i,t} \\
 UR_{i,t} = & b_4 AFT * MWD * UE_{i,t} + c_1 * UE_{i,t} * |UE_{i,t}| + c_2 * MWD * UE_{i,t} * |UE_{i,t}| \\
 & c_3 * AFT * UE_{i,t} * |UE_{i,t}| + c_4 * AFT * MWD * UE_{i,t} * |UE_{i,t}| + \varepsilon
 \end{aligned}$$

	<i>Estimated with performance matches</i>		<i>Estimated with size matches</i>	
	<i>Coefficient</i>	<i>p-value</i>	<i>Coefficient</i>	<i>p-value</i>
<i>Intercept</i>	<b>0.00498</b>	(0.000)	<b>0.00461</b>	(0.000)
<i>MWD</i>	-0.00127	(0.391)	-0.0007903	(0.583)
<i>AFT</i>	0.00057966	(0.893)	-0.00286	(0.494)
<i>UE</i>	<b>0.18861</b>	(0.000)	<b>0.26925</b>	(0.000)
<i>UE*MWD</i>	<b>0.06155</b>	(0.040)	-0.0191	(0.542)
<i>UE*AFT</i>	0.12919	(0.238)	0.15705	(0.302)
<i>UE*MWD*AFT</i>	-0.143	(0.297)	-0.16985	(0.324)
<i>UE<sub>it</sub>* UE<sub>it</sub> </i>	<b>-0.15168</b>	(0.000)	<b>-0.34788</b>	(0.000)
<i>UE<sub>it</sub>* UE<sub>it</sub> *MWD</i>	<b>-0.19728</b>	(0.000)	-0.00106	(0.984)
<i>UE<sub>it</sub>* UE<sub>it</sub> *AFT</i>	-0.22643	(0.148)	0.04572	(0.872)
<i>UE<sub>it</sub>* UE<sub>it</sub> *AFT*MWD</i>	<b>0.3378</b>	(0.078)	0.06517	(0.830)
<i>Adjusted R<sup>2</sup></i>	1.48%			
<i>F-value</i>	32.47			
<i>p-value</i>	(0.001)			

\*, \*\*, \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.  
All estimations have 21,317 firm-quarter observations.

**Variable Definitions:**

- UR<sub>it</sub>* = size-adjusted returns in the three-day window surrounding the announcement date of quarterly earnings.
- UE<sub>it</sub>* = difference in earnings before extraordinary items (Compustat Quarterly Data Item #76).
- MWD* = 1 if the firm discloses a material weakness; 0 otherwise.
- AFT* = 1 if the earnings announcement occurs after the disclose of a material weakness; 0 otherwise.

**Table 5 (concluded)**

**The earnings-return relation with linear, modified quadratic, and modified square root specifications over the period of 1994-2004**

**Panel C – Modified Square Root**

$$a_1 + a_2 MWD + a_3 AFT + b_1 UE_{i,t} + b_2 MWD * UE_{i,t} + b_3 AFT * UE_{i,t}$$

$$UR_{i,t} = b_4 AFT * MWD * UE_{i,t} + c_1 * |UE_{i,t}|^{1/2} + c_2 * MWD * |UE_{i,t}|^{1/2} + c_3 * AFT * |UE_{i,t}|^{1/2} + c_4 * AFT * MWD * |UE_{i,t}|^{1/2} + \varepsilon$$

	<i>Estimated with performance matches</i>			<i>Estimated with size matches</i>		
	<i>Coefficient</i>	<i>p-value</i>		<i>Coefficient</i>	<i>p-value</i>	
<i>Intercept</i>	<b>0.00573</b>	(0.000)	***	<b>0.00579</b>	(0.000)	***
<i>MWD</i>	-0.0007688	(0.612)		-0.0008674	(0.557)	
<i>AFT</i>	-0.00627	(0.351)		-0.00357	(0.600)	
<i>UE</i>	<b>0.14402</b>	(0.000)	***	<b>0.14549</b>	(0.000)	***
<i>UE*MWD</i>	-0.03678	(0.044)	**	<b>-0.03828</b>	(0.038)	**
<i>UE*AFT</i>	-0.07381	(0.132)		0.13035	(0.118)	
<i>UE*MWD*AFT</i>	0.03659	(0.546)		<b>-0.16716</b>	(0.065)	*
<i>UEit<sup>1/2</sup></i>	<b>-0.07008</b>	(0.000)	***	<b>-0.09987</b>	(0.000)	***
<i>MWD * UEit<sup>1/2</sup></i>	-0.02795	(0.225)		0.00192	(0.935)	
<i>AFT* UEit<sup>1/2</sup></i>	<b>0.11051</b>	(0.004)	***	0.07256	(0.137)	
<i>AFT*MWD* UEit<sup>1/2</sup></i>	0.01409	(0.728)		0.04472	(0.338)	
<i>Adjusted R<sup>2</sup></i>	0.93%					
<i>F-value</i>	21.27					
<i>p-value</i>	(0.001)					

\*, \*\*, \*\*\* denote significance at the 10%, 5%, and 1% level, respectively.  
All estimations have 21,317 firm-quarter observations.

**Variable Definitions:**

- UR<sub>i,t</sub>* = size-adjusted returns in the three-day window surrounding the announcement date of quarterly earnings.
- UE<sub>i,t</sub>* = difference in earnings before extraordinary items (Compustat Quarterly Data Item #76).
- MWD* = 1 if the firm discloses a material weakness; 0 otherwise.
- AFT* = 1 if the earnings announcement occurs after the disclose of a material weakness; 0 otherwise.

Table 6

## Panel A

## Abnormal volume changes subsequent to material weakness disclosure

<i>Variable</i>	<i>Sixty-day period preceding Disclosure</i>		<i>Sixty-day period subsequent to disclosure</i>		<i>Difference—Subsequent period less preceding</i>	
	<i>Mean</i>	<i>p-value</i>	<i>Mean</i>	<i>p-value</i>	<i>Mean</i>	<i>p-value</i>
<b><i>MWD firms:</i></b>						
Turnover (ATURN)	7.73%*	0.000	8.54%*	0.000	0.81%	0.000
Excess Turnover (AXTURN)	-0.02%*	0.831	0.64%*	0.000	0.66%*	0.000
Abnormal Volume (AABVOL)	0.01	0.631	0.89*	0.000	0.88*	0.000
<b><i>Performance-matched firms</i></b>						
Turnover (ATURN)	6.98%	0.000	7.57%	0.000	0.59%	0.000
Excess Turnover (AXTURN)	-0.66%	0.001	-0.42%	0.001	0.24%	0.136
Abnormal Volume (AABVOL)	-0.00	0.687	0.22	0.001	0.22	0.000

\* denotes significant difference from performance-matched sample mean over sixty-day period preceding disclosure at the 5% level.

**Variable Definitions:**

- ATURN*** = Daily volume of shares traded divided by number of shares outstanding.
- AXTURN*** = Daily turnover for each firm minus daily market turnover.
- AABVOL*** = Daily volume minus average volume over 200 day period ending 70 days before the event date, divided by average volume over 200 day period ending 70 days before the event date.

## Panel B

## Changes in analyst following subsequent to material weakness disclosure

	<i>N</i>	<i>Average analyst following in forecast period preceding disclosure</i>	<i>Average analyst following in forecast period subsequent to disclosure</i>	<i>Difference—subsequent period less preceding</i>	<i>Percent difference—difference divided by preceding</i>
<i>MWD firms</i>	88	7.05	6.93	-.1136	-.0126
<i>Size-matched firms</i>	106	7.30	7.39	.0849	.0398*
<i>Performance-matched firms</i>	68	8.22	8.13	-.0882	-.0056

\*denotes a significant difference from the MWD sample at the 10% level.

**Table 7**  
**Performance-matched accruals for sample firms over the period of 1998-2003**

**Panel A – Total accruals**

<i>Model</i>	1998 (N=313)	1999 (N=336)	2000 (N=367)	2001 (N=387)	2002 (N=400)	2003 (N=425)	All Years (N=425)	% >0
<i>Raw</i>	<b>0.0284</b> (0.04)	<b>0.0305</b> (0.05)	<b>0.0458</b> (0.05)	0.0200 (0.33)	0.0203 (0.15)	0.0142 (0.29)	<b>0.2728</b> (0.06)	<b>63.4%**</b>
<i>Jones</i>	0.0788 (0.15)	0.0224 (0.15)	0.0284 (0.21)	0.0096 (0.64)	0.0188 (0.21)	0.0069 (0.62)	<b>0.2628</b> (0.07)	<b>54.5%*</b>
<i>DSS</i>	0.0810 (0.15)	0.0192 (0.22)	0.0274 (0.23)	0.0113 (0.58)	0.0173 (0.24)	0.0036 (0.80)	<b>0.2516</b> (0.07)	<b>63.2%**</b>
<i>Beneish</i>	0.0856 (0.13)	0.0246 (0.13)	0.0307 (0.18)	0.0096 (0.64)	0.0219 (0.15)	0.0057 (0.68)	<b>0.2836</b> (0.07)	<b>58.0%**</b>

p-values are in parenthesis.

\*,\*\* denote significance at the 10% and 5% level, respectively (two-tailed test).

**Panel B – Current accruals**

<i>Model</i>	1998 (N=313)	1999 (N=336)	2000 (N=367)	2001 (N=387)	2002 (N=400)	2003 (N=425)	All Years (N=425)	% >0
<i>Raw</i>	<b>0.0301</b> (0.01)	<b>0.0226</b> (0.06)	<b>0.0356</b> (0.03)	0.0161 (0.16)	0.0108 (0.30)	0.0152 (0.14)	<b>0.2225</b> (0.06)	<b>58.3%**</b>
<i>Jones</i>	<b>0.0191</b> (0.09)	0.0184 (0.11)	<b>0.0310</b> (0.05)	0.0152 (0.23)	0.0092 (0.39)	0.0101 (0.35)	<b>0.1765</b> (0.06)	<b>60.6%**</b>
<i>DSS</i>	<b>0.0221</b> (0.06)	0.0155 (0.19)	<b>0.0272</b> (0.10)	0.0147 (0.25)	0.0094 (0.38)	0.0071 (0.51)	<b>0.1616</b> (0.07)	<b>59.2%**</b>
<i>Beneish</i>	<b>0.0272</b> (0.02)	0.0196 (0.12)	<b>0.0332</b> (0.05)	0.0130 (0.31)	0.0116 (0.29)	0.0094 (0.38)	<b>0.1931</b> (0.06)	<b>61.1%**</b>

p-values are in parenthesis.

\*,\*\* denote significance at the 10% and 5% level, respectively (two-tailed test).

**Table 7 (concluded)**  
**Performance-matched accruals for sample firms over the period of 1998-2003**

**Panel C – Component of current accruals**

<i>Component</i>	<b>1998</b> (N=313)	<b>1999</b> (N=336)	<b>2000</b> (N=367)	<b>2001</b> (N=387)	<b>2002</b> (N=400)	<b>2003</b> (N=425)	<b>All Years</b> (N=425)	<b>% &gt;0</b>
Change in AR	<b>0.0261</b> (0.004)	<b>0.0227</b> (0.01)	<b>0.0245</b> (0.01)	0.0071 (0.30)	0.0033 (0.60)	0.0089 (0.14)	<b>0.1538</b> (0.05)	<b>59.9%**</b>
Change in INV	0.0010 (0.84)	0.0039 (0.35)	<b>0.0094</b> (0.03)	0.0007 (0.82)	0.0017 (0.57)	0.0036 (0.16)	<b>0.0358</b> (0.07)	<b>59.4%**</b>
Change in AP	-0.0049 (0.39)	<b>-0.0107</b> (0.10)	-0.0032 (0.56)	0.0081 (0.11)	0.0020 (0.63)	-0.0029 (0.46)	<b>-0.0169</b> (0.22)	53.3%

p-values are in parenthesis.

\*, \*\* denote significance at the 10% and 5% level, respectively (two-tailed test).

**Variable Definitions:**

For each MWD firm, we identify a performance-matched firm based on industry membership [two digit SIC], period, and lagged ROA. We estimate performance-matched abnormal accruals as the difference between an accrual measure for the MWD firms and the corresponding measure for its match. We compute accruals as using COMPUSTAT data (numbers in parentheses) as **Total Accruals** = - ( $\Delta AR_{it} + \Delta INV_{it} + \Delta AP_{it} + \Delta TAX_{it} + \Delta OTH_{it} + DEP_{it}$ ) / Total Assets<sub>it</sub>, and **Current Accruals** = Total Accruals +  $DEP_{it}$  / Total Assets<sub>it</sub>.

We estimate unexpected total and current accruals using three models:

**1 - The Jones (1991) model** relates total accruals (defined above) to the change in sales (#12) and the level of gross property, plant and equipment (#8) and is written as  $Total\ accruals_{it} = a_i + b_1 \Delta Sales_{it} + c_1 PPE_{it} + u_{it}$  (all variables deflated by lagged total assets). We estimate the model cross-sectionally using all firms in a given two-digit SIC code industry and year. We make one-year ahead forecasts of expected accruals as  $Expected\ accruals_{it+1} = \alpha_i + \beta_1 (\Delta Sales_{it+1}) + \gamma_1 PPE_{it+1}$ , where the Greek letters reflect estimates of the model coefficients in the prior year. We estimate unexpected total accruals as the difference between total accruals and expected accruals, and use the difference between unexpected accruals for the MWD and for its match as *Performance-Matched Total Accruals (Jones)*. We estimate unexpected **current** accruals by estimating the model after dropping the PPE variable.

**2 - The DSS modification:** Jones' model as modified by Dechow, Sloan and Sweeney (1995) is the same as the Jones model in the estimation period. The modification introduced by DSS is the subtraction of the change in receivables (#2) from the change in sales in the prediction period so that expected accruals are given by:  $Expected\ accruals_{it+1} = \alpha_i + \beta_1 (\Delta Sales_{it+1} - \Delta Receivables_{it+1}) + \gamma_1 PPE_{it+1}$ . We estimate unexpected total accruals as the difference between total accruals and expected accruals, and use the difference between unexpected accruals for the MWD and for its match as *Performance-Matched Total Accruals (DSS)*. We estimate unexpected current accruals by estimating the model after dropping the PPE variable.

**3 - The Beneish (1998) model** relates total accruals (defined above) to the change in cash sales and the level of gross property, plant and equipment (#8) and is written as  $Total\ accruals_{it} = a_i + b_1 \Delta CashSales_{it} + c_1 PPE_{it} + u_{it}$  (all variables deflated by lagged total assets). We estimate the model cross-sectionally using all firms in a given two-digit SIC code industry and year. We make one-year ahead forecasts of expected accruals as  $Expected\ accruals_{it+1} = \alpha_i + \beta_1 (\Delta Cash\ Sales_{it+1}) + \gamma_1 PPE_{it+1}$ , where the Greek letters reflect estimates of the model coefficients in the prior year. We estimate unexpected total accruals as the difference between total accruals and expected accruals, and use the difference between unexpected accruals for the MWD and for its match as *Performance-Matched Total Accruals (Beneish)*. We estimate unexpected **current** accruals similarly by estimating the model after dropping the PPE variable. Change in AR =  $-\Delta AR_{it}$  for MWD firm less corresponding measure for control. Change in INV =  $-\Delta INV_{it}$  for MWD firm less corresponding measure for control. Change in AP =  $-\Delta AP_{it}$  for MWD firm less corresponding measure for control.

# **EXHIBIT F**

***IN RE VIISAGE TECHNOLOGY, INC. SECURITIES LITIGATION*****SUMMARY OF LODESTARS**

<b><i>Firm</i></b>	<b><i>Total Hours</i></b>	<b><i>Total Lodestar</i></b>
Klafter & Olsen	876.75	\$505,118.75
Entwistle & Cappucci	658.40	\$283,475.00
Berman DeValerio Pease Tabacco Burt & Pucillo	313.2	\$97,064.50
Roy Jacobs & Associates	109.8	\$65,331.00
Paskowitz & Associates	78.9	\$46,945.00
<b>TOTAL</b>	2,037.05	\$997,934.25

# **EXHIBIT G**

***IN RE VIISAGE TECHNOLOGY, INC. SECURITIES LITIGATION*****SUMMARY OF EXPENSES**

<b><i>Firm</i></b>	<b><i>Total Expenses</i></b>
Klafter & Olsen	\$14,012.30
Entwistle & Cappucci	\$22,021.39
Berman DeValerio Pease Tabacco Burt & Pucillo	\$5,123.64
Roy Jacobs & Associates	\$255.10
Paskowitz & Associates	\$240.18
<b>TOTAL</b>	<b>\$41,652.61</b>